

October 20, 2006

Governor Kenny C. Guinn
Carson City, NV

Dear Governor,

Your Commission on Medical Education, Research and Training has completed its work and the attached report contains the recommendations of the members. The Commission looked closely at the state of our citizens' health and the disease threats facing us now and in the future. In addition, we examined the need for various types of health care providers and the prevalence of programs to train and educate them. This information was used to design our recommendation to create a process to evaluate the requests for state funding to support these programs, and to encourage the coordination of these various public and private efforts.

Specifically, the Commission recommends that the State:

1. Make healthcare education, research and training a top priority for public policy on a sustained basis;
2. Establish a Nevada Academy of Health to help coordinate and evaluate the many and varied programs in the State;
3. Support the integrated expansion of healthcare professional education across public and private settings, and in areas of demonstrated need;
4. Increase healthcare professional training and recruitment in a way that safeguards quality while recognizing the best and brightest professionals across the global spectrum; and
5. Create a unique statewide biomedical/health research effort that encourages economic development, technology transfer and educational opportunities for a more competitive workforce.

The members of the Commission worked diligently to address your charge to us, and to make individual agendas secondary to laying out a plan to help all Nevadans through cooperative planning and a focus on our healthcare needs. It is our hope that these recommendations can help you and future Governors and Legislators make informed decisions that best use limited taxpayer dollars in ways that address high quality solutions to demonstrated healthcare needs.

Sincerely,

Donald D. Snyder,
Chairman

**HEALTHCARE PROFESSIONAL EDUCATION, RESEARCH AND TRAINING
FINAL REPORT**

**NEVADA GOVERNOR'S COMMISSION ON HEALTHCARE PROFESSIONAL
EDUCATION, RESEARCH AND TRAINING**

OCTOBER 20, 2006

Donald D. Snyder – Chairman

Dan Van Epp – Vice Chairman

Commission Administrator: Lisa Serwin

HEALTHCARE PROFESSIONAL EDUCATION, RESEARCH AND TRAINING FINAL REPORT

EXECUTIVE SUMMARY

The Governor's Commission on Medical Education, Research and Training [hereafter referred to as the 'Commission'] has developed recommended strategies to achieve excellence in healthcare professional education, research and training in Nevada. The Commission was formed because Nevada is facing an intolerable healthcare crisis. We focused on a startling fact: Nevada is the fastest growing state in the nation with a dynamic economy while our population is among the least healthy and our healthcare resources among the most limited.

This document, which reflects the common vision of the diverse stakeholders, summarizes the proposed action plan the Commission feels will elevate Nevada into a position of leadership in medical and healthcare research, education and training. The Commission's recommendations offer policymakers guidelines for evaluating options and/or decision-making in allocating the necessary resources to achieve excellence. We did not hold ourselves to any specific parameters other than maintaining our focus on our specific charter: medical and healthcare education, research and training. We did not delve into the other serious healthcare issues facing the State such as access and insurance. However, in discussing healthcare as public policy, it is difficult to separate the issues entirely. To create and sustain a high caliber health professional workforce, the Commission identified a wide range of health and healthcare issues that contribute to our current national status including healthcare planning, resource allocation, health quality metrics, and program development. As a result, some of the Commission's recommendations expanded into broader areas. Each of these areas are worthy of policy efforts and require attention for a comprehensive, workable healthcare system.

The findings led the Commission to five critical consequences and ultimately our recommendations:

- **The confluence of rapid growth and changing demographics is leading Nevada toward an ever increasing population of elderly, newborns, Latinos and Asians with an exponentially growing prevalence of associated diseases (e.g., cancer, heart disease, dementia, stroke, diabetes, arthritis, etc.) yet Nevada has one of the country's lowest rankings in health outcomes for diseases particular to these populations.**¹ The need for additional medical services to meet the new level of demand is placing significant strain on the healthcare system. These issues have been thoughtfully brought to the attention of the Commission and now require immediate action. The Commission's recommendations are designed to reverse this trend and improve Nevada's place among the top states for healthcare professional education, research and training.

¹ Between 2004 and 2014 the State anticipates an increase of over 45% in population 65 and older, Larsen Allen Report, University School of Medicine and State Health Department. See Appendix I for more details.

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- **Nevada is sorely lacking the necessary healthcare providers to achieve a nationally acceptable level and quality of healthcare.** The number and diversity of healthcare professionals (physicians, nurses, social workers, pharmacist, paramedics, etc.) needs to increase.
- **The resources and opportunities for undergraduate and graduate education and training programs for all health professionals (including but not limited to medical, nursing, allied health, pharmacy, and social work) are inadequate and below nationally acceptable levels.** The capabilities and capacity for training health professionals must be significantly expanded to achieve the objective of elevating Nevada's healthcare status into national standards.
- **The quality of healthcare services, healthcare professional education/training and research capabilities are inseparable endeavors in modern progressive health centers. The research infrastructure, resources and capabilities within Nevada is well below national average.** Policies to strengthen the medical research enterprise should be an integral part of strengthening the educational and clinical programs within Nevada. Strong biomedical research presences in the state will not only strengthen education and training programs but also broaden/increase the opportunities for economic diversification/development for Nevada.
- **The integration of knowledge, resources and expertise among all stakeholders in public and private sectors is essential to the success in re-engineering the healthcare education, research and training system in Nevada.** The Commission recommends the establishment of a statewide Nevada Academy of Health to facilitate communication and cooperation among all stakeholders to address Nevada's health needs effectively.

To meet Nevada's challenges, the Commission has five main recommendations:

1. MAKE HEALTHCARE PROFESSIONAL EDUCATION, RESEARCH AND TRAINING A TOP PRIORITY PUBLIC POLICY ISSUE ON A SUSTAINED BASIS

The need for healthcare professional education, training and research MUST become a larger part of the state's dialogue. Nevada cannot afford to be the fastest growing, least healthy state in the nation. The health of the people of Nevada needs to be substantially improved if Nevada is to remain on a growth trajectory and our healthcare system will reach a point of implosion if we remain on our current path. Lawmakers, regulators and the provider community need to better understand the rapid changes in the delivery of healthcare and the evolution of new models of education and new types of providers.

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As evidenced by the efforts of the State Legislative Committee on Healthcare, the Board of Regents Health Science Center initiative and this Commission, the effort to increase the dialogue about healthcare issues has already begun. However, much more is still needed. The Commission recommends educating, engaging and inspiring the community as well as our state leaders on the immediate healthcare crisis facing Nevada and ensuring that everyone is aware of the gap we must close.

Only through teamwork and collaboration can we make the best use of public and private efforts and funding to address Nevada's health workforce issues on a continuing basis. Public policy leaders, business leaders, union officials, academic institution officers, healthcare providers, educators and many others will need to be actively engaged in health related issues for years to come. Nevada's health issues transcend politics and special interests and we all must work together to allow Nevada to become a leader in healthcare.

2. ESTABLISH A NEVADA ACADEMY OF HEALTH

The Commission recommends creating a not-for-profit, statewide, organization composed of representatives from Nevada's health research, education, and training institutions. Policymakers need objective and targeted recommendations developed through a systematic process by which they may evaluate these proposals for clinical, educational, and scientific integrity; priorities; quality; correlation with Nevada's population health needs; and resource use effectiveness. The core mission of this organization would be to provide ongoing policy recommendations to the Governor's office and the Legislature relative to the State's needs and priorities regarding public and private healthcare professional education, medical research, and conducting strategic planning for improved healthcare outcomes based upon Nevada's identified needs.

3. SUPPORT THE INTEGRATED EXPANSION OF HEALTHCARE PROFESSIONAL EDUCATION IN NEVADA

The State requires a significant increase in the number of high quality healthcare professionals in order to provide Nevadans with access to essential healthcare services. The current resources and opportunities for educational and training programs for all health professionals are inadequate and below nationally acceptable levels. The capabilities and capacity for training of health professionals must be significantly expanded to achieve the objective of elevating the status of healthcare in Nevada.

Neither the public nor the private sector alone can meet Nevada's health education and workforce needs. Meeting Nevada's healthcare demands requires an integrated, collaborative approach between the public and private sectors in

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providing health professional education, biomedical research, training, patient care and community health.

Broad recognition of the need to expand healthcare professional education is late in coming. However, there is now a recognized need and growing support for improvement in healthcare professional training and health sciences education among essential constituencies in higher education, the legislature, and the business community. Failure means that resources will continue to be spent in duplicative, competing or lower priority areas and ensure Nevada falls short of the outcomes that we strive for and are necessary to guarantee the best health and healthcare for our citizens.

4. INCREASE HEALTHCARE PROFESSIONAL TRAINING AND RECRUITMENT

The State of Nevada needs more healthcare professionals in Nevada of all types, with an emphasis on highly trained, excellent academic medical professionals as defined by the “standards and benchmarks” subcommittee of this Commission². Nevada requires a regulatory environment as well as licensing provisions to facilitate in a timely manner the recruitment of quality physicians and researchers and that address our need to attract nurses and other healthcare professionals. Our regulatory system needs to safeguard quality while simultaneously recognizing the competitive and other challenges of recruiting the best and brightest across a global spectrum. In short, Nevada must become an easier place in which to work and transfer.

5. CREATE A UNIQUE STATE-WIDE BIOMEDICAL/HEALTH RESEARCH EFFORT

The Commission recommends creating a unique state-wide research effort³ which focuses on an emerging need or technology unique to Nevada. An effort of this type can engage and excite the public, raise the quality level of all participants, and expand economic development into new areas that encourage a more competitive workforce and match our education system with the jobs that will create prosperity.

Specifically the Commission supports evaluating the creation of a VOLUNTARY state-wide, integrated research project. The potential impact of a project of this type includes:

² See Appendix V for suggested criteria

³ Examples of such efforts include the Framingham Study, the Women’s Health Initiative and the Iceland National Registry. A research effort of this size will require funding from the National Institutes of Health (NIH), state and other public agencies and private donations. See Recommendation 5 and Appendix VI for more details.

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- Establishing a unique national scientific resource/infrastructure for developing new knowledge regarding the genetic/molecular mechanisms
- Developing novel interventions
- Forging partnerships with companies to allow the transfer of new knowledge/technologies to students, investigators, physicians in practice, pharmaceutical and biotech companies, patient and other healthcare providers
- Identifying cross-cutting diagnostic techniques

The remainder of this document (following a description of the process) discusses each of these recommendations in more detail.

PROCESS

The Governor's Commission on Healthcare professional education, Research and Training was formed by Governor Kenny Guinn in late 2005 and convened its first meeting in January 2006. The Commission was tasked with providing a forum to enable a broad cross-section of Nevadans to join together to create short and long-term blueprints to enhance the level of healthcare professional education, research, and training available in Nevada. We met eight times over the course of eight months.

The Commission heard from public and private sector sources regarding the current status of the components that currently comprise Nevada's healthcare. We heard about current problems and learned about new and proposed enhancements that are imminent or just over the horizon. We cataloged and assessed resources, determined national standards of excellence and prioritized by disease type.

Our recommendations are based on our work and the knowledge and information each participant possessed. We focused on short and long term solutions to take Nevada to the next level in healthcare. We did not hold ourselves to any specific parameters other than maintaining our focus on healthcare professional education, research, and training.

Specific steps the Commission took included:

- Documenting existing resources and assets as well as community stakeholders in Nevada in medical and healthcare education, research and training⁴
- Identifying the strengths, weaknesses and barriers to success of those resources and assets.
- Determining national standards and benchmarks of excellence⁵ in medical and healthcare education, research and training.

⁴ See Appendix III, IV and VII

⁵ See Appendix V

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- Comparing Nevada’s existing status of medical and healthcare education, research and training to those identified standards; recommending what will work here.
- Assessing the most pressing current and future healthcare needs of Nevada as identified by disease type⁶.
- Establishing long term goals to fill critical gaps and meet national standards of excellence

The time line for each of our recommendations varies. Some are needed immediately and MUST be started now. Others require more planning and agreement on where the State should focus its efforts. We recognize there are many competing interests and state needs.

This document must represent the BEGINNING of what we hope will be a continuous long-term conversation and effort.

DOCUMENT ORGANIZATION

We have divided our recommendations into five sections. Each section includes a summary, background information and the Commission’s specific strategies for each recommendation. A few sections contain also contain “Other” information or ideas the Commission felt were important to mention.

⁶ See Appendix I

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RECOMMENDATION 1

MAKE HEALTHCARE PROFESSIONAL EDUCATION, RESEARCH AND TRAINING A TOP PRIORITY PUBLIC POLICY ISSUE, ON A SUSTAINED BASIS

SUMMARY

The need for healthcare professional education, training and research MUST become a larger part of the state's dialogue. Nevada cannot afford to be the fastest growing, least healthy state in the nation. The health of the people of Nevada needs to be substantially improved if Nevada is to remain on a growth trajectory and our healthcare system will reach a point of implosion if we remain on our current path. This requires lawmakers, regulators and the provider community to better understand the rapid changes in the delivery of healthcare and the evolution of new models of education and new types of providers

As evidenced by the efforts of the State Legislative Committee on Healthcare, the Board of Regents Health Science Center initiative and this Commission, the effort to increase the dialogue about healthcare issues has already begun. However, much more is still needed. The Commission recommends educating, engaging and inspiring the community as well as our state leaders on the immediate healthcare crisis facing Nevada and ensuring that everyone is aware of the gap we must close.

Only through teamwork can we make the best use of state, federal and private efforts and funding to address Nevada's health workforce issues on a continuing basis for at least the next decade. Public policy leaders, business leaders, union leaders, academic institution officers, healthcare providers, educators and many others will need to be actively engaged in health related issues for years to come. Nevada's health issues transcend politics and special interests and we all must work together to allow Nevada to become a national leader in healthcare.

The Commission discussed specific recommendations about the issues on which public policy should focus. Those suggestions are included in "Specific Strategies" below.

BACKGROUND

While the State's population has quadrupled in the past three decades to 2.7 million, the state's all-cause mortality has dropped to a rank of 40th in the nation⁷. Deaths from respiratory disease, cancer and suicide rank well above the national mean.⁸ Nevada ranks

7 Kaiser Family Foundation, Statehealthfacts.org, accessed September 11, 2006

8 Nevada State Health Division, Healthy People Nevada 2010, 2003 pages 58, 4, 48 respectively

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45th in the number of doctors in the US (172 per 100,000 people)⁹ and has the fewest nurses per population (514 per 100,000)¹⁰ of any state in the United States (other than California). Yet our public medical school is the smallest, we have the fewest residency training positions of any state with a medical school¹¹, nursing education is significantly under funded and allied health professions education in pharmacy, public health, nutrition and the like are the step-children of Nevada's deficient healthcare education policy. Additionally, we have some of the most restrictive licensing requirements which serve to further inhibit our growth.

Nevada leads the nation in economic growth, yet women struggle to access prenatal care; patients seeking to ameliorate chronic illnesses wait in overcrowded emergency rooms¹², our residents must leave the state to access some sub-specialty care; health and wellness promotion and disease prevention get short shrift¹³; research infrastructure and clinical research remain under funded; and those people with personal physicians are among the fortunate.¹⁴ Nevada has the 7th highest hospital billed charges in the United States¹⁵ and nearly the highest percentage of children without health insurance.¹⁶ Finally, in 1999, Nevada ranked last in the nation on per capita state spending on healthcare programs at \$464.89 per person, well below the national average of \$872.62.¹⁷

Indeed, Nevada has a healthcare crisis. This crisis will only grow worse if we accept and tolerate the current situation and idly watch while our population doubles to 4.3 million in 2030. It is safe to say the personal and public health consequences will be alarming. Clearly it is time to pay attention.

SPECIFIC STRATEGIES

The State of Nevada must:

1. Encourage the executive and legislative branches of our government to address Nevada's health crisis. Business leaders, union leaders, health insurance consultants, academic leaders, hospital executives, community physicians and

9 American Medical Association (AMA) Physician Characteristics & Distribution in the US, 2006, Page 2

10 Department of Health & Human Services – HRSA State and Attendant Workforce Profiles, 2004, Page 32

11 American Association of Medical Colleges (AAMC), 2006, Page 5

12 Emergency room overcrowding and a nurse shortage in emergency departments threatens access to emergency care, and resulted in Nevada receiving an F for patient quality and safety this year by emergency physicians. The National Report Card on the State of Emergency Medicine, Evaluating the Environment of Emergency Care Systems State by State, American College of Emergency Physicians, pages 75-76, January 2006

13 AHRQ 2004 National Healthcare Quality Report: Nevada

14 Nevada State Health Division, Healthy People Nevada 2010, 2003, Page 1

15 Las Vegas Review Journal, December 2005

16 US Census Bureau, 2001

17 US Department of Health and Human Services, 2000

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many others must make healthcare professional education, research and training a continual and perpetual issue.

This will be neither easy nor inexpensive. Indeed, as the issues have been ignored for so long, *an extraordinary healthcare debt has accumulated*. Nevada can no longer afford band-aid fixes nor can we allow insignificant disagreements to interfere with our goals. In order for the executive and legislative branches to address the problems, Nevada's health crisis and accompanying dialogues must transcend politics and special interests.

2. Develop goals and set and maintain standards regarding the critical public health challenges we need to meet: access to preventive services, health promotion/disease prevention, health behavior education, immunization practices, alcohol and drug addiction, unplanned pregnancies and mental health.
3. Address critical health needs¹⁸ in Nevada through public and private education and outreach efforts.
4. Ensure a high quality, first rate health professional workforce through mandatory education in evidenced based practices, nationally established practice guidelines and career long learning¹⁹. Our institutions must deliver high level accredited education and stand prepared to deliver on national healthcare outcomes measures.
5. Include initiatives directed to specific identified high-risk populations²⁰.
6. Ensure appropriate although streamlined licensure and certification oversight.
7. Expand its clinical and translational²¹ research presence. We must craft public/private health policy and strategies that address "bench to bedside" research unique to the citizens of our state.

Understanding and creating cures for diseases unique to the people of our state is critical. Yet Nevada has little clinical or translational research presence. Nevada must craft public/private health policy and strategies that address "bench to bedside" research unique to the citizens of our state.

18 As an example, NVCII has already initiated the first phase of a state-wide cancer educational navigational program which provides assistance (educational, financial, social and psychological) and outreach oncology and prevention education to cancer patients and their families and healthcare providers within the state of Nevada.

19 See Appendix V for example and suggested institution and academic physicians standards and benchmarks

20 For example, Cambridge Health Center, which offers among other things, a Federally Qualified Health Center, senior services, health department services, ESL classes, food services, eligibility services for Medicaid and other programs. Approximately 2,500 clients access 10 different services at the center each month.

21 Translational research is the clinical application of scientific medical research, from the lab to the bedside.

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8. Address health access for basic services and chronic conditions that, when left untreated, result in increased morbidity, mortality and healthcare expense.

In keeping with our charge to help find ways for policymakers to evaluate these requests, we have identified strategies to determine the recipients who could expand existing public/private partnerships and/or optimize the use of the resources available (see Recommendation #2). The Commission also recommends as public funds are made available in support of public/private partnerships that provide clinical services to patients, those entities must accept an obligation to serve the widest array of patients, including those from the ranks of the Medicaid, Medicare and uninsured populations.

9. Radically alter the way medicine is taught and practiced through technology and technological advances (e.g. telemedicine, electronic databases, etc.). The State would be well served to invest in technology both as a way to improve our current position and to diversify the economy.
10. Support and expand initiatives which focus on collecting and analyzing accurate metrics like morbidity, mortality, incidence, national rankings and comparative analysis.

Our ability to address the priority healthcare challenges facing our population can be exponentially enhanced through a system of data collection, sharing and analysis that helps us move from a mode of reacting to health needs to methodically applying resources in advance of a crisis stage. (A recent example in Nevada is the shortage of mental health services that has left those patients vulnerable and jeopardized the ability of hospitals to meet the critical needs of other patients.). Examples of reports or agencies that collect, analyze and report on health data include Nevada's Center for Health Data and Research²², the Medical Education Council of Nevada²³, Nevada State Health Division's *Healthy People Nevada*²⁴, Agency for Healthcare Research Quality²⁵, and the State's tumor registry.

22 <http://health2k.state.nv.us/vs/2000%20Vital%20Statistics%20Report.pdf>

23 <http://www.unr.edu/med/dept/cehso/mecon>

24 Nevada State Health Division, *Healthy People Nevada 2010, 2003*:
<http://health2k.state.nv.us/nihds/publications/HP%202010.pdf> ; also see the Appendices

25 <http://qualitytools.ahrq.gov/qualityreport/2004/state/srt.aspx?state=NV>

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RECOMMENDATION 2

ESTABLISH A NEVADA ACADEMY OF HEALTH

SUMMARY

The Commission recommends creating a not-for-profit, statewide, organization composed of representatives from Nevada's health research, education, and training institutions.

The core mission of this organization would be to provide ongoing policy recommendations to the Governor's office and the Legislature relative to the State's needs and priorities regarding public and private healthcare professional education, medical research, and conducting strategic planning for improved healthcare outcomes based upon Nevada's identified needs.

Key areas of focus would include:

- Healthcare Professional Education
- Clear and measurable quality benchmarks that are regularly evaluated and outcome based (e.g., workforce goals, quality of academic institutions, etc.)
- Analysis and evaluation of state-wide data collected, created or reviewed by the proposed new Office of Health Planning and Office of Workforce Development, as well other available data²⁶
- Forum for collaboration and integration of planning activities related to education and research
- Fostering collaboration, strong partnerships and sustainability between the public and private sector
- Technology transfer and business partnerships that advance economic development
- Coordination, planning and support for the state-wide biomedical/health research effort (see page 26 for more detail)
- Yearly independent report from the Academy

²⁶ If the proposed new office is not formed, the NAH could add state-wide data collection to its responsibilities. Gathering and analyzing data is critical to the success of healthcare education, research and training.

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The mission and scope of this organization will evolve over time as the group works together to meet Nevada's ever-changing health care challenges.

BACKGROUND

One of the challenges facing policy makers in state government and private sector organizations is how to evaluate the diverse healthcare needs of the State against the many proposals to continue existing programs or establish new ones.

Each organization or subset of the population comes with a compelling story and a constituency that is energized and passionate. Discerning the relative priority of these efforts and how they will use resources to advance the needs of the broader population can be difficult, particularly during the hectic environment of a Legislative session. For example, the Commission identified several different public/private partnerships that are currently receiving State support, and others that are likely to seek such support.

Policymakers need objective and targeted recommendations developed through a systematic process by which they may evaluate these proposals for clinical, educational, and scientific integrity; priorities; quality; correlation with Nevada's population health needs; and resource use effectiveness.

SPECIFIC RECOMMENDATIONS

1. Create a non-profit organization with a specific mandate or charter from the State of Nevada reporting to the Governor. This would provide transparency and an appropriate level of oversight from public officials, while allowing the flexibility to engage non-governmental organizations and quickly respond to changing healthcare demands.
2. The initial formation should be accomplished by an **Executive Order**, with the Governor appointing an initial steering committee, possibly of members from this Commission. The Legislature should ultimately be asked to provide a statutory framework for the Academy. Some of the members of this Commission could become the initial executive committee of the NAH until criteria are developed and elections held.
 - a. **Board of Directors:** The Board of Directors could be comprised of the Chairman, CEO or similar senior level representative from each full member organization. The appointees of the Governor and Legislature should represent patient advocates, clinical providers, distinguished scholars in the fields of research or public health not otherwise affiliated with the organization, or private citizens with personal or business experience that would benefit the Board. The Board would appoint such

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other members it deemed necessary to advance the goals of the organization²⁷.

- b. **Voting:** Each member would have one vote on the Board, and the steering committee or initial board would need to decide which recommendations require consensus, a majority or super-majority vote, or unanimous support. This is a critical point and careful work will be necessary to ensure that the organization is successful and we reach a proper balance between the strong, individual members and the need to coordinate and best use public resources to meet identified needs.
- c. **Membership:** The NAH should be open to every public, private, non-profit, and for-profit health education, research, training, and clinical institution in Nevada that subscribes to the criteria established by the founding steering committee and amended by the organization as necessary. Members should also belong to recognized professional associations in their specific areas, and be accredited or peer reviewed where available and appropriate. Outside expertise should be sought and cultivated to help Nevada move forward in the best possible way.
- d. **Structure:** The NAH will have two major areas of focus as it develops its policy advice and collaboration initiatives: a) education and training, and b) research in the biomedical sciences, along with related economic development. Science should focus on improving Nevada's capabilities in basic science and related research to enhance the ability of our health sciences educational programs to attract strong faculty and students, and to generate new economic opportunities for the state. Policy/prioritization should focus on the application of evidence-based criteria to improve healthcare professional education, research and training outcomes.
- e. **Councils:** The NAH structure should include Councils that deal with specific areas of interest, and involve the members' staff, board and patient constituencies at various levels of their organizations. This will ensure that the right people are asked to work on each different area, and produce "buy-in" for the NAH and its work throughout the member institutions. Public participation in this process is essential, and the Councils can be an important place for the public to engage and watch the work of the NAH first hand. Suggested Councils include:
 - i. Education Council (build partnerships among members)
 - ii. Quality Council (consumer/purchaser input, teaching benchmarking, continuous improvement, accountability systems)
 - iii. Clinical Council (community providers and others)

²⁷ The current Director of Public Health or any new public health officer should be a non-voting member of the Board and support the work of the NAH

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- iv. Patient Council (patients, families and advocates)
 - v. Science Council (the best minds from around the country)
 - vi. Technology Council (how to adopt and use technology across entities to advance each member's mission and provide better sharing of data and resources)
 - vii. Public Health Council (integrate with state, local and federal public health agencies, as well as developing a larger public health infrastructure and data collection ability)
- f. **Funding:** It is important that each member have an investment in the success of the effort, and that no one member is perceived as owning or controlling the organization.
- g. **Staffing:** In the beginning stages a contract staff might be able to organize the work and convene meetings, with a small staff ultimately being hired to run the day to day operations of the organization. There needs to be a high level of coordination and correlation between the work of the councils, Board of Directors and the State staff who evaluate healthcare professional, education, research and training.

OTHER

Further evidence of the need for policy advice comes from the State Legislative Committee on Healthcare. This Committee recently recommended creating a new Office of Health Planning be established²⁸. This new office would oversee healthcare planning and policy development. The proposed new division would consist of four divisions: Analysis and Policy, Quality, Community Assessment and Facilities Planning. A second new office, the Office of Healthcare Workforce Development was also recommended²⁹. This office would oversee professional workforce planning and policy development.

It remains to be seen how the recommendations from this Commission and the Legislative Committee will be integrated. The Commission strongly supports the creation of such health care planning and policy infrastructure. Added infrastructure can only increase the effectiveness of adequate planning and policy development, and would enable NAH to further focus its work. Depending on how both recommendations move forward, the NAH may adjust its focus to supplement or expand, rather than duplicate, the information and analysis provided by any new state capacity. One way for the entities to work together is for the NAH to provide independent analysis and assessment of state-wide data. We are confident there are other ways to either meld the recommendations into an integrated whole or to have two groups cooperatively work together.

28 2006 Nevada State Health Plan, Burns and Associates, Executive Summary, page 6 - http://burnshealthpolicy.com/nevada_docs.htm

29 2006 Nevada State Health Plan, Burns and Associates, Executive Summary, pages 6 - http://burnshealthpolicy.com/nevada_docs.htm

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RECOMMENDATION 3

SUPPORT THE INTEGRATED EXPANSION OF HEALTHCARE PROFESSIONAL EDUCATION IN NEVADA

SUMMARY

To provide Nevadans with access to essential healthcare services the State requires a significant increase in the number of high quality healthcare professionals. . The current resources and opportunities for educational and training programs for all health professionals are inadequate and below nationally acceptable levels. For Nevada to elevate the status of its healthcare into national prominence, the capabilities and capacity for training health professionals must be expanded significantly.

Neither the public sector nor the private sector alone can meet Nevada's health education and workforce needs. Meeting Nevada's healthcare demands requires an integrated, collaborative approach between the public and private sectors in providing health professional education, biomedical research, patient care and community health.

Broad recognition of need to expand healthcare professional education is late in coming. However, there is now a recognized need and growing support for improvement in healthcare professional training and health sciences education among essential constituencies in higher education, the legislature, and the business community. Failure means that resources will continue to be spent in duplicative, competing or lower priority areas and ensure Nevada falls short of the outcomes that we strive for and are possible for the health of our citizens.

BACKGROUND

As previously discussed in Section 1 but worth repeating, Nevada ranks 45th in the number of doctors in the US (172 per 100,000 people)³⁰ and has the fewest nurses per population (514 per 100,000)³¹ of any state in the United States (other than California). Yet our public medical school is the smallest, we have the fewest residency training positions of any state with a medical school³², nursing education is significantly under funded and other health professional education in pharmacy, public health, nutrition and the like are the step-children of Nevada's deficient healthcare education policy.

30 American Medical Association (AMA) Physician Characteristics & Distribution in the US, 2006, Page 2

31 Department of Health & Human Services – HRSA State and Attendant Workforce Profiles, 2004, Page 32

32 American Association of Medical Colleges (AAMC), 2006, Page 5

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SPECIFIC STRATEGIES

1. Create a University based Health Sciences Center (HSC)

In making this recommendation, the Commission wishes to emphasize two critical factors: first, a University based HSC cannot meet the needs of the people of the State by itself and we encourage collaboration with community providers and other stakeholders. A University based Health Sciences Center must support the work of other public and private institutions and, in turn, be supported by these groups if it is to successfully meet the need for new healthcare professionals and improve the healthcare of Nevadans. Second, although all of the details are not worked out, the Commission recognizes that a HSC will require investments, especially in expansion of the fulltime faculty and related facilities. Given that the plan for the University of Nevada Health Sciences Center is still emerging, this recommendation should not be construed as a blanket endorsement of all components that have been discussed in that planning nor should it be construed as recommending that the Nevada System of Higher Education be given a “blank check” for this project

2. Expand Graduate Medical Education (GME) programs and “slots”

Nevada should expand both the scope of its graduate medical education programs and increase the number of “slots”³³ in identified areas of need that do not unnecessarily duplicate existing programs. This will allow Nevada to capitalize on the State’s success in retaining GME graduates to practice in Nevada and help address the State’s physician manpower shortage³⁴. GME program expansion is currently limited by existing federal legislation that caps the number of GME slots for which hospitals are reimbursed.

In order to expand Nevada’s GME “slots” federal legislation will need to be introduced. The Nevada Hospital Association (NHA) has already asked our congressional delegation to introduce legislation that would provide hospitals with existing residency and fellowship programs with the ability to increase and develop new GME slots for hospitals, especially in states experiencing rapid

33 GME “slots” are currently paid for by Nevada hospitals which pay the direct costs of residencies and fellowships (i.e., salaries, benefits, etc.) along with other indirect costs such as faculty salaries, support-staff salaries, and recruitment costs. Medicare reimburses hospitals for a portion of these costs, based on a capped dollar amount per resident and based on an approved number of slots, regardless of the total number of slots supported by a hospital. While the Centers for Medicare and Medicaid Services redistributed GME slots in 2005, at which time Nevada received a net increase of 26 for a total of 160 GME slots, the number still falls considerably short of what is needed. Nevada’s population has grown over 95% over the past 14 years, and our population is expected to increase by another 50% by the year 2024. Our population is also aging rapidly, and our current supply of physicians and limited scope of GME physician specialty programs is not enough to accommodate this growth.

34 Nevada ranks 3rd of all States in retention of residents and fellows who complete an ACGME Training Program in a State that are practicing in that State, “Key Physician Data By State”, AAMC, January 2006, page 8

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population growth. A strong letter of support from the Governor to Federal Legislators is important.

Within the state, additional funds will be required to expand the number of programs. NHA has delivered a proposal to the Nevada System of Higher Education which offers an additional financial commitment of up to \$25 million annually to make 250 additional residency/fellowship slots available for physician training³⁵. This represents a commitment of up to \$45 million annually for GME. The Commission supports their proposal.

In addition, each of the public and private graduate degree granting programs has specific plans to increase their GME programs and “slots”. The Commission supports the increases in general although does not have a position on the individual specifics³⁶. Support must also be given to independent research institutions such as: the Nevada Cancer Institute, the Ruvo Institute, Nevada Neurosciences Institute, Desert Research Institute and Joslin Diabetes Center, to name a few, that can or will carry out extensive pre/post graduate medical training.³⁷

3. Grow enrollment in the University of Nevada School of Medicine (UNSOM) and Touro University Nevada College of Medicine (TUNCOM)

The Commission recommends rapidly responding to Nevada’s need for physicians through the continued development of the University of Nevada School of Medicine and Touro University Nevada College of Medicine.

35 To support this proposal, NHA has formed a new corporation, known as the Committee for Improving and Expanding Nevada Healthcare, which is comprised of leaders from the hospital and physician communities. The overarching vision of the Committee is to help develop a world-class healthcare professional education system in Nevada by identifying and supporting partners and resources that can be utilized to support and enhance the expansion of GME educational opportunities in the state, which will help meet the rapidly growing demand for healthcare services in Nevada.

36 See Appendix IV for specific institution proposals

37 The Commission also suggests the State look at ways of offering financial incentives (grants) for collaborative projects between public and private universities to offer joint higher cost programs such as Occupational Therapy, Nurse Practitioner, etc. as well as State funding for forgivable loan programs

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4. Grow Nursing education programs

The commission recommends meeting Nevada's need for nurses³⁸ through continued growth in both undergraduate and graduate nursing education across NSHE programs and private nursing schools. Specific goals include increasing masters and doctoral prepared nursing faculty, and increasing bachelors prepared registered nurses. Nevada will also need to increase growth in available Nursing faculty though growth in graduate program enrollment growth and decreased time to degree completion for masters and doctoral students³⁹.

5. Increase other healthcare professional education programs and enrollment⁴⁰

In addition to physicians and nurses, there is a need for additional healthcare providers in Nevada in virtually every healthcare profession⁴¹. The Commission supports increasing other healthcare professional education programs both public and private with priority going towards those programs that address the State's most urgent shortages and/or disease priorities⁴².

38 The 2005 HRSA Registered Nurse Survey, as well as the 2005 Survey of Registered Nurses in Nevada indicates Nevada has made progress in its efforts toward increasing the nurse population. Resting dead last in the nation in its nurse to population ratio in previous years, Nevada now registers 49th in the nation, just ahead of California. Progress is being made, but arduous efforts are still needed to increase not only a homegrown student base, but also correction of the nurse faculty salary disparity and attracting more nurses toward a career in nursing education. No forward momentum can be made in increasing the number of nursing students until there is adequate faculty to educate those students. See Section 4 for additional recruitment and retention suggestions. The Commission also recommends looking at additional ways to increase faculty including: (1) re-examining the Nevada State Board of Nursing (NSBN) educational requirements for clinical faculty; evaluating adoption of a faculty-extender model (perhaps by waiver or as a several year stop-gap) to use BS-prepared, experienced, highly qualified clinicians to work under the supervision of a MS or PhD prepared faculty member in the supervision of nursing students at the clinical site; (2) allowing faculty with expertise in distinct disciplines to teach required nursing courses in that discipline when appropriate and with NSBN approval (e.g., an attorney teaching healthcare law in a nursing program; (3) Developing a community-wide orientation program for clinical students, perhaps offered by the agency on campus and including students from more than one educational program to reduce frequency of orientation sessions; (4) obtaining Legislative support for a joint taskforce of all educational entities (public and private) preparing registered nurses and healthcare representatives to strategize approaches to responding to the nursing shortage with the goal of producing a Master Plan for Nursing in the State of Nevada.

39 In many cases in Nevada, recruiting nursing faculty requires salary levels comparable to those of staff nurses at the bedside rather than comparison to faculty salary levels in other states. The State and NSHE will need to further examine this issue of salary parity both across the public and private sector and across the University System.

40 See Appendix II for a summary of all health professional education programs in Nevada

41 There are growing shortages of Pharmacists, Physical Therapists, Occupational Therapists, Respiratory Therapists, Dosimetrists, and Physicists. For example, pharmacists are going out of state to obtain doctoral degrees in pharmacy. There is a lack of Respiratory Therapy programs in the state. In addition, it is estimated there are as few as 2000 radiation therapy physicists in the country actively working in cancer programs. There is no Radiation Physicist training program in the state.

42 See Appendix I for Nevada disease priorities

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6. Develop new non-profit, public/private partnerships and support existing programs

A good model of effective State investment in partnerships of this type is the Nevada Cancer Institute (NVCi). This non-profit, public/private sector partnership has leveraged State dollars by attracting significant federal and private funding to the State. NVCi plans to build the infrastructure and partnerships to become a comprehensive cancer center as designated by the National Cancer Institute. The Commission supports State investment in this and other similar efforts that are, and will continue to be, vital to the growth of key healthcare components in Nevada.

7. Collaborate with community physicians and other healthcare personnel

To meet the needs of Nevada, provision for expanded health professional training will require the continued and expanded support of the community. Historically, many organizations including most of the hospitals in the State have contributed to the clinical education of physicians, nurses, and other health professionals. Many physician groups also serve in volunteer or adjunct faculty roles. In addition, there are new models of focused patient care and research organizations which also have a commitment to education. Independent institutes play a critical role in graduate and healthcare professional education across the country⁴³. The breadth and depth of these programs will need to expand as the health professional training programs grow.

8. Expand the State's research capabilities to complement the development of healthcare professional education

The Commission recommends Nevada expand its research agenda and develop models which include not only basic science but clinical, educational, and community health services evaluative research, resulting in continuous quality care improvement. Advancing the ability of the medical schools to educate students and to address the rapidly changing face of medicine and healthcare requires expanded research initiatives. Increasing research also drives economic growth and development.

Although growing research programs requires capital investment, there may be opportunities for public and private organizations to work together to avoid duplicating significant investment (e.g., through co-utilization of facilities if an appropriate relationship can be developed; development of a shared vivarium⁴⁴ facility would be an example).

⁴³ For example, for many years, MD Anderson Cancer Center in Houston did not grant graduate degrees in biological and populations sciences on their own, but instead provided the training experience for more than 70% of the Health Science Center students, and many of the oncology specific didactic lectures. This opportunity for specialized training attracted many students to the HSC programs who would have otherwise gone elsewhere.

⁴⁴ Animal research

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9. Increase in training technical support personnel for biomedical endeavors
10. Expand public/community health improvement initiatives including public education and exposing healthcare trainees to the most pressing community health issues

Providing education and community health services to the public are important to the mission of each of the health professional training schools and programs. Involving healthcare professional trainees in community health and community health education provides them with early exposure to and additional experience with the health outcomes that need to be improved

Implementation of the recommendations outlined below will set Nevada on a path toward development of the healthcare professional training programs that are required to meet the current and future needs of the State. Common themes in achieving the recommendations include:

- Opportunities to create true partnerships and collaboration between various parties including both public and private sectors
- Identifying and securing financial support, especially for the required growth in graduate healthcare professional education
- Availability of, access to, and coordination of clinical training sites
- Addressing the high cost of living in Clark and Washoe Counties⁴⁵ as a potential barrier to student and faculty recruitment (especially where faculty salaries may not be competitive with salaries offered in the service sector for the same educational preparation).

It should be noted that in order to grow and expand in the ways outlined above, an appropriate structure of oversight and coordination must be created to direct growth, expansion and capital investments toward a shared vision while providing policymakers with the assurance of quality and accountability they need to make funding decisions. The Nevada Academy of Health mechanism described in Recommendation 2 is intended to help facilitate the State's planning.

Background information including the program scope, history, mission and organizational structures for the health professional schools and programs at NSHE, TOURO, NVC, and NHA member hospitals is included in Appendix I. Background information on other secondary post education programs and Graduate Medical Education programs (GME) is included in Appendix V.

⁴⁵ See also Section 4

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OTHER

Although outside the scope of this Commission, it must be noted that to ensure a robust healthcare professions pipeline K through 12 and university/community college initiatives in basic sciences and math must be developed. State business and education leaders must address this challenge to improve Nevada's education status, develop an educated workforce, improve health outcomes and increase life expectancy in our state.

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RECOMMENDATION 4

INCREASE HEALTHCARE PROFESSIONAL TRAINING AND RECRUITMENT

SUMMARY

The State of Nevada needs more healthcare professionals in Nevada of all types, with an emphasis on highly trained, excellent academic medical professionals as defined by the “standards and benchmarks” subcommittee of this Commission⁴⁶. Nevada requires a regulatory environment and licensing provisions that facilitate in a timely manner the recruitment of quality physicians and researchers and that address our need to attract nurses and other healthcare professionals. Our regulatory system needs to safeguard quality, while recognizing the competitive and other challenges of recruiting the best and brightest across a global spectrum. In short, Nevada must become an easier place in which to work and transfer.

BACKGROUND

As previously noted in this report, Nevada also has alarming rankings nationally for other health indicators. A recent legislative report from the Department of Health and Human Services ranks Nevada statistics of 2,778 health workers per 100,000 people compared to 4,030 per 100,000 people nationally⁴⁷. Nevada faces a shortfall of over 1,800 physicians by 2010, and a shortfall of over 3,000 by 2020 if no action is taken. Quality healthcare can be, and is, delivered despite physician shortages⁴⁸. However, Nevada’s shortages are particularly severe and as the population continues to increase the quality of our healthcare will decline.

SPECIFIC STRATEGIES

1. Join the Nursing Licensure Compact⁴⁹: this requires a bill be passed which adopts in its entirety, the language approved by the National Council of State Boards.
2. Streamline healthcare professional licensing, privileging and credentialing requirements without sacrificing quality.

46 See Appendix V for suggested criteria

47 Department of Health & Human Services – HRSA State and Attendant Workforce Profiles, 2004 , Page 5

48 Nevada Medical Center Report, The Innova Group, February 2002, Page 118, 120

49 The Nursing Licensure Compact is a mutual recognition model of nursing licensure that allows a nurse to have one license (in his/her state of residency) and to practice in other states (both physical and electronic), subject to each state’s practice law and regulation. Under mutual recognition, a nurse may practice across state lines unless otherwise restricted. In order to achieve mutual recognition, each state must enact legislation authorizing the Nurse Licensure Compact. States entering the compact also adopt administrative rules and regulations for implementation of the compact. There are currently 20 states that have implemented the Nurse Licensure Compact and 1 additional state pending. Nevada has declined to join at each of the last two Legislative sessions.

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The Commission found that modifications are needed to the regulatory process for licensing to increase the number of qualified healthcare professionals. Regulatory issues for experienced physicians moving to the state are cumbersome⁵⁰. Specifically, the State should:

- Support legislation that streamlines licensing requirements for healthcare professionals and encourages reciprocity, where possible
 - Develop a state-wide credentialing body which oversees the credentialing process for state licensure, insurance carriers and hospitals⁵¹
 - Extend temporary Nursing permits to 6 months (or renew the current 4 month temporary permit if awaiting document completion from previous agencies or federal agencies is the only barrier to licensing).
3. Pass legislation that supports the “eminent physician licensing” that other states have so successfully adopted, and which has been recently adopted by unanimous vote of Nevada’s Board of Medical Examiners.
 4. Reduce practice restrictions

The Commission recognizes and acknowledges the need for patient safety. However, given our State’s condition there are some basic “work practices” that could be changed to alleviate some of the more acute issues. While we leave the specifics to the appropriate State regulatory bodies we have listed two examples as illustrations.

- The Commission recommends reevaluating the use of EMT/Paramedics in the emergency room and that hospitals are allowed to determine level of practice for these individuals with competency validation⁵².

50 As an example, experienced board certified academic physicians coming to Nevada are experiencing delays of 4-9 months in obtaining Nevada medical licenses.

51 The credentialing process for state licensure, insurance carriers and hospitals is often duplicative and time consuming. Considerable time may elapse between licensure and the ability of the clinicians to be credentialed and to see patients in the outpatient and hospital settings. While the Joint Commission on Accreditation of Healthcare Organizations requires each hospital have its own credentialing process, they use a standardized form that could be shared. Likewise, credentialing by insurance companies is extraordinarily time consuming and costly. It is not unusual for a clinician to request credentialing by more than 80 separate insurance carriers. A universal insurance carrier credentialing form is available that is not universally used. In addition, the information duplicates that which is requested by hospital credentialing departments. Using a universal form for both hospital and insurance carrier credentialing is efficient and cost effective (doi.state.nv.us/Form-LH-Credential-7-1-04.pdf). The information could reside in a central state supported credentialing office.

52 EMTs/Paramedics are allowed to use their skills outside of the acute care setting. Starting IVs, providing stabilizing treatment, evaluating cardiac and respiratory status and giving some medications in the field are routine. To alleviate the current strain on our system it is worth examining our current practices.

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- It is recommended the State Board of Nurses work with a select group of Chief Nursing Officers from the north, the south and a representative from the rural community to evaluate the regulations that define the scope of practice for Certified Nursing Assistants and make recommendations to expand their scope⁵³.
5. Develop state-wide branding, marketing and reasonable housing to assist in recruitment efforts of healthcare professionals
- Nevada is the one of the best kept secrets in the country as far as a great place to live. Great weather, recreational opportunities, and entertainment opportunities are only a few of the attractions. However, the cost of living, especially the cost of housing, is a deterrent to those living east of the state⁵⁴. Branding and marketing Nevada as a place to live and work is a key strategy in a competitive national market.
6. Create a statewide collaborative recruitment process with public and private entities to attract faculty and researchers whose specialties target Nevada's priority healthcare issues as identified in this report.

⁵³ Other States allow Certified Nursing Assistants to do simple procedures in hospitals under the supervision of a Registered Nurse that are not allowed in Nevada (e.g., bedside blood glucose monitoring, starting IVs, and hanging simple solutions).

⁵⁴ Innovative programs such as Washoe Medical Center's subsidized housing program should be investigated.

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RECOMMENDATION 5

**CREATE A UNIQUE STATE-WIDE BIOMEDICAL/HEALTH RESEARCH
EFFORT**

SUMMARY

The Commission recommends creating a unique state-wide research effort⁵⁵ which focuses on an emerging need or technology unique to Nevada and which addresses Nevada's distinctive health issues. A unique state-wide effort can engage and excite the public, raise the quality level of all participants and expand economic development into new areas that encourage a more competitive workforce and match our education system with the jobs that will create prosperity.

Specifically the Commission supports evaluating the creation of a VOLUNTARY state-wide, integrated research project. The potential impact of a project of this type includes:

- Establishing a unique national scientific resource/infrastructure for developing new knowledge regarding the genetic/molecular mechanisms
- Developing novel interventions
- Forging partnerships with companies to allow the transfer of new knowledge/technologies to students, investigators, physicians in practice, pharmaceutical and biotech companies, patient and other healthcare providers
- Identifying cross-cutting diagnostic techniques

BACKGROUND⁵⁶

The Commission reviewed other State's efforts to "quickly" jump start their medical research efforts. One example, The Georgia Research Alliance (GRA) was formed during the 1990's by key business executives, university presidents, and the state government. A non-profit entity, GRA played a pivotal role in getting state government, industry, and universities to work together to hire scientific luminaries, attract federal research funds, and translate research into economic development⁵⁷. Another example is The California Institute for Regenerative Medicine ("The Institute" or "CIRM") a state

⁵⁵ A research effort of this size will require funding from the National Institutes of Health (NIH), public funds and private donations.

⁵⁶ See Appendix VI for more information on the Nevada Vital Aging Initiative already underway through the Ruvo Institute as well as more information on the Framingham Study and California's stem cell efforts. Other examples include the Women's Health Initiative and the Iceland National Registry.

⁵⁷ See "Catalyzing Research Competitiveness: The Georgia Research Alliance, W. Henry Lambright, Prometheus, Vol. 18, No. 4, 2000

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agency that was established through the passage of Proposition 71, the California Stem Cell Research and Cures Initiative. A third was the Boston Massachusetts, Framingham Heart Study which under the direction of the National Heart Institute (now known as the National Heart, Lung, and Blood Institute; NHLBI) and in collaboration with Boston University, embarked on an ambitious project in cardiac and stroke health research.

SPECIFIC STRATEGIES

The Commission supports evaluating the creation of a VOLUNTARY state-wide, integrated research project. This research project would:

- Capture information in a state-wide database on Nevada residents who voluntarily enroll and would be available for potential clinical and/or epidemiological studies. Encourage tissue banking (with privacy protection) but annotate it to electronic health records.
- Be available to multiple researchers including state agencies.
- Create a much needed resource to study questions that couldn't otherwise be explored and help overcome one of the major barriers to clinical trials/studies, that is, the recruitment of subjects.
- Match anticipated societal needs with pending scientific and medical advances in preventive therapies.
- Utilize a large asymptomatic population to enable the launch of multi-site collaborative studies
- Capitalize on Nevada's unique population and attributes including the UNLV Supercomputer
- Generate a large body of scientific knowledge leading to effective treatments
- Build a lasting infrastructure for continued scientific collaboration and research.

An effort of this kind requires a nationally visible statement such as those made by California, Georgia, Wisconsin, Minnesota, North Carolina, and others. That statement would declare Nevada's interest in supporting and attracting new businesses, new capital, new jobs, and new people in the targeted area of research.

There are many issues and concerns with undertaking an effort of this type:

- There is extensive and increasing use being made of human genetic databases by biotechnology, genomics and pharmaceutical companies

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- There is a wide range of public sample collections being commercially exploited by the private sector to create genetic databases
- Serious conflicts of interest are emerging around the creation of these resources
- It is not possible to easily separate the use of genetic data and personal medical information in genetic databases
- There is no coherent US policy framework governing the creation and use of genetic databases by the private sector
- The experience of Iceland⁵⁸ highlights the importance of transparency, public debate and strong oversight mechanisms to ensure broad public support

All of these issues and many others should be highlighted as of significant importance for public policy as part of an on-going discussion.

The Commission acknowledges that an undertaking of this type will require a tremendous amount of planning, time and resources. However, the Commission recommends the project be evaluated (through the NAH) and that initial planning efforts get underway.

OTHER

Policies to strengthen the medical research enterprise should be an integral part of strengthening the educational and clinical programs within Nevada. Strong biomedical research presences in the state will not only strengthen education and training programs but also broaden/increase the opportunities for economic development⁵⁹.

⁵⁸ There are a number of models for such special or specific population based registries or databases. Iceland is one model for such a registry where the entire population of the country participates as volunteers. In addition, the Iceland model has worked out a mechanism for commercial application or use of the database. The NVA project and/or any proposed registry in Nevada would also be designed as a multi-user friendly system and open access.

⁵⁹ The Commission supports the efforts of the Nevada Development Authority and others in the State who are actively working to strengthen biomedical research presence. We encourage programs and policies that further these efforts. Appendix VI includes other State models as examples.

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COMMISSION MEMBERS

Alphabetical by first name:

1. Alfred Mann, President, Advanced Bionics
2. Betsy Fretwell, Deputy City Manager, City of Las Vegas
3. Bill Welch, President, Nevada Hospital Association
4. Dr. Carolyn Yucha, Dean of the School of Nursing, University of Nevada, Las Vegas
5. Cynthia Kiser Murphey, Senior Vice President – Human Resources, MGM MIRAGE
6. Dan Klaich, Executive Vice Chancellor, Nevada Systems of Higher Education
7. Dan Van Epp, President, Newlands Communities
8. Dana Dye, Chief Nursing Officer; Interim Administrator, Renown Health (formerly Washoe Medical Center)
9. Donald D. Snyder, Retired President, Boyd Gaming Corporation; currently Chairman, Smith Center for the Performing Arts
10. Dr. Ikhrum Khan, Principal, Quality Care Consultants
11. James Dean Leavitt, Regent, Nevada Systems of Higher Education
12. Dr. John McDonald, Dean and Vice President of Health Sciences, University School of Medicine
13. Michael Hillerby, Executive Vice President, Wingfield Nevada Group
14. Dr. Mitch Forman, Dean, Touro University Nevada College of Medicine
15. Dr. Rob McBeath, Urology Specialists of Nevada
16. Philip G. Satre, Retired Chairman and Chief Executive Officer, Harrah's Entertainment, Inc.
17. Dr. Sunil Sharma, Nevada Cancer Institute
18. Somer Hollingsworth, President, Nevada Development Authority

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1. Dr. Ben Venger, Nevada Neuro Sciences Institute
2. Betsy Gilbertson, HEREIU Welfare Fund
3. Blain Claypool, Chief Operation Officer, University of Nevada School of Medicine
4. Bob Cooper, Director of Economic Development, City of Henderson
5. Bobette Bonds MPH, Government & Community Affairs Manager, HEREIU Welfare Fund
6. Chris Bosse, Government Relations Officer, Renown Health (formerly Washoe Medical Center)
7. Christina Bailey, Special Assistant to the President, Nevada Cancer Institute
8. Dr. Don Havins, Professor, TOURO University
9. Dr. Ed Kingsley, Oncologist, Comprehensive Cancer Centers of Nevada
10. Greg Hart, Consultant, LarsonAllen
11. Heather Murren, Chief Executive Officer, Nevada Cancer Institute
12. Dr. James A. Block, Consultant
13. Dr. Javid Anwar, Principal, Quality Care Consultants
14. Jim Lenhart, Vice Dean, University of Nevada School of Medicine
15. Senator Joe Heck, Nevada State Legislature
16. Linda Nowell, United Way
17. Nancy Bridges, Nevada Hospital Association
18. Marcia Turner, chief External relations Officer, University of Nevada, Health Science Center

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19. Dr. Paul Ferguson, former Vice President for Research & Graduate Studies,
University of Nevada, Las Vegas
20. Rebecca Burns, Strategic Planning Analyst, MGM MIRAGE
21. Scott Carter, Business Development, City of Las Vegas
22. Shannon L. Lorbiecki, Consultant, LarsonAllen
23. Tina Jagerson, formerly Director Pain Studies, Nevada Cancer Institute
24. Dr. Zaven Khachaturian, The Ruvo Institute

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APPENDIX I

PRIORTIES BY DISEASE TYPE

While still a small state, going forward Nevada can expect to continue to see unusually high growth, uneven population density, shifting economic forces, and diverse cultural needs:

- Nevada's population is expected to continue to grow at a rapid pace:
 - The population is projected to grow from 2.3M in 2003 to 3.6M in 2024⁶⁰ - a 56% increase (which is probably conservative)
 - Growth is clustered in Reno (Washoe County) and Las Vegas (Clark County)
 - The largest increases in population will come from newborns, elderly, Latinos, Asians. Tourists will also continue to significantly add to the strain on our resources and influence our priorities.
 - By 2020, approximately 30% of the State's population will be Hispanic⁶¹

These population growth rates and shifting demographics lead to some specific health/disease indicators and the need for certain types of physicians:

- High birth rate: Obstetrics and Gynecology, pedestrians, family medicine
- Elderly: Chronic diseases (Cardiac disease, Cancer, Diabetes, Pulmonary disease, Arthritis, and Neurologic disease)⁶²
- Latino:⁶³
 - Leading causes of death: heart disease, cancer, stroke, diabetes
 - Other disproportionate prevalence: Asthma, Chronic Obstructive Pulmonary Disease, HIV/AIDS, Obesity, Suicide, Teenage pregnancy, Tuberculosis, bi-lingual healthcare providers
- Asian:⁶⁴
 - Leading causes of death: cancer, heart disease, stroke, diabetes

60 Nevada State Demographers Office, April 2004, www.nsbdc.org/demographer/pubs/images/2004proj.pdf

61 Nevada State Demographers Office, April 2004, www.nsbdc.org/demographer/pubs/images/2004proj.pdf

62 Larson Allen Report to the Regents March 17, 2004, page 10

63 Centers for Disease Control, www.cdc.gov/omh/Populations/HL/HL.htm

64 Centers for Disease Control www.cdc.gov/omh/Populations/AsianAm/AsianAm.htm

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- Other disproportionate prevalence: Chronic Obstructive Pulmonary Diseases (COPD) Hepatitis B, HIV/AIDS, Tobacco smoke, Tuberculosis

Nevada has other health disparities⁶⁵ as well:

- Nevada is one of the least healthy states in the nation, ranking low in a number of areas. Nevada's state rank for selected indicators⁶⁶ includes:

○ Suicide	47
○ Death by Firearm	46
○ Cancer	37
○ Heart disease	33
○ Stroke	23
○ All causes	40
- Women represent just under half of Nevada's population. From 1996 to 2000, woman had higher rates of heart disease, lung cancer deaths than the national rates for women
- Other Nevada disparities:
 - Stroke: African Americans had a higher stroke death rate than whites
 - High Blood Pressure: African Americans are more likely to report that have been diagnosed with high blood pressure than whites
 - Cancer: African American Men had higher incidence and death rates than their white counterparts

⁶⁵ National Center for Chronic Disease Prevention and Health Promotion

⁶⁶ National Center of Health Statistics, National Vital Statistics 2002 data - Larson Allen March 17, 2006 University of Nevada Healthy sciences Center presentation page 8

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Current Nevada health/disease indicators include⁶⁷:

Causes of Death, 2003	Ranking	% of Total Deaths
Diseases of the Heart	1	25.7
Cancer	2	23.0
Chronic Lower Respiratory Diseases	3	6.6
Stroke	4	5.7
Accidents	5	4.9
Nephritis (Kidney issues)	6	2.5
Suicide	7	2.4
Septicemia	8	2.4
Influenza and Pneumonia	9	2.3
Alzheimer's	10	1.7
Other (Diabetes #11, Cirrhosis #12, Homicide #13, Atherosclerosis #14, HIV #15)	11-15	22.8
Total		100%

This matches closely with Nevada hospital's current top service line and utilization⁶⁸:

Top Ten Service Line	Top Ten Utilization (by DRG)
1. Obstetrics – Delivery	1. Delivery (w/o complication)
2. Cardiology	2. Cesarean
3. Normal Newborns	3. Chest Pain
4. Pulmonary	4. Heart Failure and Shock
5. Orthopedics	5. Simple Pneumonia & Pleurisy >age 17
6. General Surgery	6. Neonate (w/ significant problems)
7. Gastroenterology	7. Chronic Obstructive Pulmonary Disease
8. Neurology	8. Rehabilitation
9. Neonatology	9. Esophagitis and Other
10. Cardiology – Invasive	10. Stroke

⁶⁷ Nevada Vital Statistics, 201-2003, Center for health Data and Research, page 257 of 339. For more specific information please reference full report.

⁶⁸ Intellimed Provider Profile System report, 4/21/2006

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When combined with the population and demographic changes outlined above, we are lead to conclude future health/disease indicators will be **(not necessarily in rank order** although probably fairly close):

1. Cancer
2. Heart Disease
3. Stroke
4. Obstetrics and Gynecology
5. Alzheimer's
6. Diabetes
7. Suicide
8. Chronic Obstructive Pulmonary Disease
9. Obesity
10. Neurologic Diseases
11. Arthritis
12. HIV/AIDS
13. Asthma
14. Cirrhosis
15. Tuberculosis

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APPENDIX II

HEALTHCARE PROFESSIONAL EDUCATION TRAINING PROGRAMS⁶⁹

Physicians	
<u>School</u>	<u>Enrollment</u>
The University of Nevada School of Medicine (UNSOM)	An entering class size of 52 students and 194 residents and fellows enrolled in 14 approved programs
Touro University College of Osteopathic Medicine (TUNCOM)	An entering class size of 134 students (and a capacity for 167 per year) and 48 physician assistant students (with a potential enrolment capacity of 150).

Nurses	
<u>School</u>	<u>Enrollment</u>
Across the NSHE – three schools of Nursing (UNR, UNLV, NSC), and 4 additional programs (one at each community college)	Total enrollment of 1,570 RN students as of academic year 2004-05
Masters Degree in Nursing at UNR and UNLV and a Ph.D. program at UNLV	UNR Masters (Fall 05) = 41 students UNLV Masters (Fall 05) = 50 students UNLV Ph.D. (Fall 05) = 5
Bachelor of Science in Nursing University of Southern Nevada (previously the Nevada College of Pharmacy)	The baccalaureate nursing program is designed to prepare students for entry level registered nurse positions in a variety of health care settings.
Touro University Nevada College of health and Human Services	Entry level Masters enrollment Fall 2006 = 38, Bachelors – Masters = 12 and RN – Masters = 3
Apollo College	Associate in Applied Science in Nursing
National University	Programs offered include: Associate of Science in Nursing (A.S.N.), Bachelor of Science in Nursing (B.S.N.) Generic Entry, Bachelor of Science in Nursing (B.S.N.) RN Completion, Licensed Vocational Nurse to Associate of Science in Nursing (LVN-to-ASN), Licensed Vocational Nurse to Bachelor of Science in Nursing (LVN-to-BSN), LVN "30 Unit" Option Certificate

⁶⁹ Per Nevada Department of Secondary Education

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Dentists	
<u>School</u>	<u>Enrollment</u>
School of Dental Medicine at UNLV	287 doctoral students and 16 post doctoral students (2005-06 AY)

Dental Assisting	
<u>School</u>	<u>Enrollment</u>
Northwest Healthcareers	32
Institute of Professional Careers	12
Pima Medical Institute	102
High-Tech Institute	70

Medical Assisting	
<u>School</u>	<u>Enrollment</u>
Academy of Healing Arts	327
Career College of Northern Nevada	191
Everest College	261
Heritage College	13
Nevada Career Academy	42
Northwest Healthcareers	26
Career Education Institute	71
Pima Medical Institute	123
High-Tech Institute	97
Nevada Career Institute	123
Medical and Technical Institute	89

Surgical Technician	
<u>School</u>	<u>Enrollment</u>
Nevada Career Academy	49

Pharmacy	
<u>School</u>	<u>Enrollment</u>
University of Southern Nevada, School of Pharmacy (previously the Nevada College of Pharmacy)	With a 2005 entering class of 142 students

Pharmacy Tech	
<u>School</u>	<u>Enrollment</u>
Heritage College	129
Pima Medical Institute	39
High-Tech Institute	85
Nevada Career Academy	20

Emergency Medical Technician (EMT)	
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<u>School</u>	<u>Enrollment</u>
American Medical Response	442
REMSA	57
EMS Training of Southern Nevada	109
Medic west Ambulance	119

Phlebotomy	
<u>School</u>	<u>Enrollment</u>
Northwest Healthcareers	16
Academy of Healing Arts	18
Pima Medical College	51
Medical and Technical Institute	29

Sonography	
<u>School</u>	<u>Enrollment</u>
Medical Imaging Institute	12
American Institute of Medical Sonography	29

Other	
<u>School</u>	<u>Enrollment</u>
UNVL School of Health and Human Sciences programs in: <ul style="list-style-type: none"> • Physical therapy • Health physics • Kinesiology • Nutrition sciences • Clinical laboratory sciences • Radiology 	Fall 05 = 1073 undergraduates 113 graduate students
Other Social and Behavioral Science Programs at UNLV and UNR (Psychologists and Social Workers)	150 undergraduate and 40 graduate students
Nevada Cancer Institute	Provides classroom teaching in oncology and hematology, radiation oncology, biostatistics, pharmacology, molecular biology, genetics, clinical pathology and laboratory medicine to UNSOM medical residents, students and to the general medical and academic community. Provides radiology technicians training in radiation oncology, pathology and imaging. Provides specialty nursing seminars in chemotherapy and oncology.

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APPENDIX III

GRADUATE MEDICAL EDUCATION - RESIDENT PROGRAMS FUNDED BY HOSPITALS⁷⁰

School: Hospital Supporting Resident Program:	UNSOM					Touro		Totals
	UMC	Sunrise	WMC	VA	Totals	Valley		
<u>Resident Description</u>								
Internal Medicine Residents	46.00		16.00	20.00	82.00	15.00		97.00
Family Practice Residents	5.68		8.00	3.00	16.68	1.00		17.68
Pediatrics Residents	18.00	18.00			36.00			36.00
Obstetrics and Gynecology Residents	12.00				12.00			12.00
Surgery Residents	21.00				21.00			21.00
Dental Program Residents	6.00				6.00			6.00
Psychiatry Residents	1.00		4.00	5.00	10.00			10.00
Traditional Rotating Residents (undeclared)						10.00		10.00
Subtotal	109.68	18.00	28.00	28.00	183.68	26.00	2.00	209.68
Emergency Medicine Residents	8.00	1			8.00			8.00
Total	117.68	18.00	28.00	28.00	191.68	26.00		217.68

Note: These are the resident and fellowship positions that were funded by hospitals for cost reports filed during the 12 months ended Oct 2005.

1. UMC has already added residents related to emergency medicine residencies - 8 per year.
For a total of 24 for the entire program.
2. Valley has added a DO program since the date that this information was gathered. 25 residents per year for a total of between 75 - 100 residents in total. We are trying to gather which specialties at this time.

There are also some resident positions that are funded by the state that should be added to this summary.
The number of FTE supported by the state is unknown at this time.

⁷⁰ Per Hospital Association (prepared for Governor's Commission Assets and Resources Working Group). In addition, Valley Hospital Medical Center has been approved for an AOA Ophthalmology Residency beginning in July 2007 with 3 slots in the first year. Approval for an Ophthalmology Program is pending.

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APPENDIX IV

SPECIFIC HEALTHCARE PROFESSIONAL EDUCATION BACKGROUND AND GROWTH PLANS

The background, mission, current scope and future plans included in this Appendix have been prepared by the specific institutions. Specific plans for the future have not been fully vetted, endorsed or approved by the Commission. They have been included as examples and illustrations of the type and scope of the projects required to move Nevada's education, research and training programs to a higher level.

BACKGROUND, SCOPE AND MISSION

University of Nevada Health Sciences Center (NHSC)

History

The University of Nevada School of Medicine was established in 1969 by the Nevada State Legislature to provide healthcare professional education and training for Nevadans. The School has historically been "community based," with a small faculty when compared to other schools. UNSOM also has a small class size and limited graduate medical education (GME) programs.

NSHE has three schools of nursing and four nursing programs (one at each community college). The University of Nevada, Reno (UNR), the University of Nevada, Las Vegas, and Nevada State College each have nursing schools. Community College of Southern Nevada, Great Basin Community College, Truckee Meadows Community College, and Western Nevada Community College each have nursing programs offering associate degrees in nursing. UNR and UNLV also have masters programs and UNLV has a doctoral program in order to meet the need for nursing educators in Nevada.

In 2001, Nevada ranked 48th amongst U.S. states in dentists per capita with the situation getting worse as the population grows. In response to the need for additional dentists, The School of Dental Medicine at UNLV, the only dental medicine program in Nevada, enrolled its first class of 75 students in 2002-2003 and graduated its first class of 71 dentists in May of 2006.

Over the past two years, NSHE has established schools of public health at UNR and UNLV. Programs currently offered include undergraduate degrees in Healthcare Administration and Policy, Health Promotion, and Health Ecology. Each school also offers a Masters degree in Public Health (MPH).

The School of Allied Health at UNLV and the College of Health and Human Sciences at UNR offer training in the allied health disciplines.

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The University of Nevada Health Sciences Center is being formed in 2006-2007 to bring together all of the health sciences programs operating within the eight units of the Nevada System of Higher Education (NSHE).

Mission

- Address Nevada's health professional workforce shortages through aggressive growth of education programs
- Target program development focused on Nevada's population health needs
- Capture synergies across health professional schools through Health Sciences Center organizational model: maximizing the value of the State's investment
- Collaborate with other stakeholders who can be part of the solutions

Organizational Structure

- The UNHSC is a component of NSHE and each of its units. As such, the NSHE Board of Regents is the ultimate governing body for UNHSC.
- Determining the organizational structure that will meet the needs of the UNHSC for leadership and accountability within the NSHE structure is still under development.

Scope of Current Programs-UNSOM

- UNSOM currently enrolls 52 students in each entering class. This number will increase to 62 for the 2007-2008 academic years.
- There are currently approximately 235 full-time faculty and more than 1000 community physicians involved in the school's mission of providing clinical service, education, and research.
- Graduate medical education (GME) programs are focused primarily on primary care: family medicine, internal medicine, surgery, pediatrics, and obstetrics and gynecology. Additional residency programs are offered in psychiatry, emergency medicine, dentistry, and plastic surgery. Fellowship programs are offered in sports medicine, obstetrics, hand surgery, and trauma and critical care.
- In order to meet the clinical training needs of its students, residents, and fellows, UNSOM has programmatic linkages to University Medical Center, Washoe Medical Center, Sunrise Hospital, St. Mary's Regional Medical Center, and the Veterans Administration systems.

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Scope of Current Programs – Nursing

- NSHE currently offers Bachelor of Science in Nursing programs at UNLV, UNR, and Nevada State College. In addition, Associate Degrees in Nursing are offered at the four community colleges within NSHE. In response to Nevada's needs and a State Legislative mandate, NSHE has doubled enrollment in its undergraduate nursing programs over the past five years. As a result, NSHE's estimated nursing enrollment across the seven schools and programs is 1,648 undergraduate nursing students. This aggressive growth has challenged leadership to minimize time frames to recruit faculty, develop facilities, and identify sufficient clinical training sites.
- UNR and UNLV also offer nursing masters degree programs and UNLV offers a doctoral program in order to prepare faculty to meet the rapidly expanding needs for nurse educators in Nevada. There were 95 students enrolled in these programs in 2005-2006.
- The NSHE nursing programs currently have 126 full time faculty providing instruction for undergraduate and graduate nursing students.

Scope of Current Programs - School of Dental Medicine

- The School of Dental Medicine currently enrolls 75 first year students in the four year dental medicine program. The School also has 16 post doctoral students in an orthodontia specialty training program.
- There are approximately 43 full time and community based faculty in the School of Dental Medicine.

Scope of Current Programs - Schools of Public Health at UNR and UNLV

- The UNLV School of Public Health has approximately 100 undergraduate students enrolled in its health administration and policy and health promotion programs. The Masters in Public Health and Masters in Education programs had about 135 students in 2005-2006 and are growing rapidly as the school develops. Doctoral programs are also planned. The UNLV School of Public Health has been successful in obtaining over \$7 Million in external grant funding to support programs in health disparity, environmental and occupational health, and health surveillance.
- The UNR School of Public Health offers an undergraduate degree in health ecology that is focused on health promotion and disease prevention, emphasizing wellness through fitness. The School of Public Health had over 260 undergraduate students and 42 students in its Masters in Public Health program in 2005-2006 in its first full academic year.

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Scope of Current Programs – Allied Health

- The School of Allied Health at UNLV includes a Doctor of Physical Therapy program, the only physical therapy program in Nevada, and programs in health physics, nutrition sciences, clinical laboratory, and radiology. The School had 1150 undergraduates and 120 graduate students enrolled in 2005-2006.
- UNLV and UNR also offer programs in psychology, counseling, and social work to prepare mental health workers to meet the needs of Nevada.
- UNLV and UNR also offer basic science and life sciences programs that provide the prerequisite courses that prepare students for health sciences clinical training programs.

Scope of Current Programs -University of Nevada School of Pharmacy and Pharmaceutical Sciences (UNSOP)

- As proposed, the UNSOP will eventually offer a Doctorate in Pharmacy (PharmD) program to 60 entrants annually and will qualify graduates for the Nevada State Board exam and to practice pharmacy in all areas of specialization. The first class of students would be recruited into the PharmD program to begin Fall Semester 2009.
- The objectives of the School include:
 - Provide Nevada with pharmacy practitioners whose expertise is second to none, especially in clinical pharmacy practice. There is growing evidence that pharmacy care practitioners significantly increase patient care quality and reduce healthcare costs.
 - Stimulate research capabilities and funding through development of an investigational drug studies laboratory that would evaluate new drugs, innovative drug-delivery systems and devices, and drug regimens.

Touro University Nevada (TUN)

History

TUN is a private, Jewish-sponsored, not-for-profit institution of higher education established initially in 2004 to train osteopathic medical students and physician assistants. It is a branch campus of Touro University California in Mare Island, California which offers osteopathic medicine, PA, and pharmacy programs. Both institutions are extensions of a larger educational system, Touro College, established in 1970 in metropolitan New York City. Touro College offers vocational, undergraduate, graduate, medical, pharmacy, nursing, OT/PT, law, parochial, international and online schools. In June 2005 TUN established the College of Health and Human Services to educate nursing, occupational, and education students. The inaugural class of medical students

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consisted of 78 students. The current 3rd entering class of DO students numbers 135.

The PA program consists of 125 total students enrolled in a 30 month program. Nursing and occupational therapy each admitted their second class of students fall 2006, bringing the number of 1st and 2nd year students in OT to 40, and the number of pre-licensure entry-level MS in nursing students to 38, and 15 students pursuing the RN-BS-MS. The healthcare environment in Nevada presented unique opportunities to educate and retain quality medical, PA, nursing and occupational therapy students in this state. TUJN has met both regional and national accreditation in all of its programs.

Mission

TUNCOM prepares students to become outstanding osteopathic physicians who uphold the values, philosophy and practice of osteopathic medicine and who are committed to primary care and the holistic approach to the patient. The college advances the profession and serves its students and society through innovative education, research and community service. The physician assistant program is committed to the education of highly qualified and culturally competent physician assistants who are part of the healthcare team and will contribute to the wellness of their communities through patient care, service, leadership and research. TUNCHHS prepares outstanding graduates in nursing, occupational therapy and education who demonstrate professional competence, critical thought, leadership ability, creativity, and commitment to compassionate services.

Organizational Structure

The administration of TUN consists of the Chief Academic Officers of the COM & CHHS (the respective Deans of each College) and the Vice President for Administration. They report to the Provost of Touro University, who in turn, reports to the President of Touro College. The Dean of TUNCOM is supported by an Associate Dean for Academic Affairs, an Associate Dean for Pre – Clinical Education, an Associate Dean for Clinical Education, an Assistant Dean for Community Initiatives and Chairs of Basic Science, Primary Care, and Osteopathic Manipulative Medicine. The Director of the PA Program reports to the Academic Dean of the COM. The Directors of the Nursing and Occupational Therapy programs report to the Dean of the CHHS

Scope of Current Programs - College of Osteopathic Medicine

The approved 4 year COM program will graduate Doctors of Osteopathic Medicine (DOs) with the inaugural class in 2008. The 30 month Masters in PA program is scheduled to graduate its first class in March of 2007. Currently, students in both programs are participating in clinical training at sites within Nevada and throughout the United States. Most of the clinical training takes place in hospitals, clinics and community doctor's offices in Clark County.

Scope of Current Programs - College of Health & Human Services

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Currently Touro University Nevada offers entry level master's degree programs in nursing and occupational therapy. Applicants to nursing must have a BA/BS in a field other than nursing. OT applicants must have at least 3 years of undergraduate course work, and may enter with or without a BA/BS. Both programs are full time, 24 months in length. Graduates of these entry level programs are eligible for licensure (RN) or certification (OT) in the respective field and receive a MS degree upon completion. Both programs are provisionally approved by the required professional bodies. Full approval follows program completion by students initially enrolled in the program and site visitation by the accreditor. The master's entry level program in nursing is the first private nursing program in the state of Nevada, and the first nursing program which allows individuals who choose to make a career change an opportunity to enter the field without having to obtain a second baccalaureate degree. The OT program is the first and only OT program in Nevada, and preparation at the graduate level is the appropriate entry preparation for the field. .

Nursing also offers the MS in nursing to RNs with associate degrees (a 2 year curriculum) or with a BA/BS in nursing or a related field (1 year curriculum). Both nursing and OT have admitted a second class of students. While enrollments are nearing capacity, neither program is full despite extensive and costly recruitment and marketing

Nevada Cancer Institute

History

Nevada Cancer Institute (NVCi) is a private, not-for-profit institution dedicated to research, clinical care and prevention of cancer. Designated as the official cancer institute of the state, NVCi was founded in 2002 and is a collaborative, statewide effort involving concerned citizens, the oncology community, academic leaders, legislators, corporations, healthcare advocates, and cancer patients and their families. NVCi is wholly committed to offering the residents of Nevada research-based options and breakthroughs through the most current and most advanced cancer treatment options. NVCi's mission is to ensure that cancer patients and their families, regardless of their geographic location, have access to the latest in cancer prevention, education, detection, and treatment options.

- In 2003, NVCi was designated the official cancer institute of Nevada.
- In 2004, NVCi initiated Patient Navigation and Outreach & Education services in southern Nevada.
- In March 2005, NVCi extended Patient Navigation and Outreach & Education services to northern Nevada with an office in Sparks.
- In September 2005, NVCi opened its Research and Care Center in Las Vegas, NV.

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- In October 2005, NVC I introduced the first-ever Phase I cancer clinical trials in Nevada.
- In April 2006, NVC I extended Patient Navigation and Outreach & Navigation services to Fallon and Elko, NV.

Mission

Nevada Cancer Institute is committed to reducing the burden of cancer by pursuing the development of a comprehensive cancer research institute, as defined by the National Cancer Institute, and that is staffed by the finest scientists, clinicians, educators and caregivers.

As an organization, we provide hope to our communities through research, education, early detection, prevention and high quality patient care.

Our focus is a future without cancer that is achieved through initiated and collaborative research in basic, clinical and population science.

Organizational Structure

Nevada Cancer Institute is governed by a Board of Directors, an Operating Board, as well as a Scientific Advisory Board.

The institute is led by a Director, Deputy Director, Chief Executive Officer and President/Chief Operating Officer, as well as an executive leadership team that includes a Vice President of Research Operations, Chief Financial Officer, Chief Information (technology) Officer, Vice President of Communications and Public Affairs and Vice President for Development.

Scope of Current Programs

Nevada Cancer Institute's areas of focus include:

- Research, including basic, translational, clinical, and population science
- Evidence Based Clinical Care
- Patient Navigation, Outreach and Education
- NVC I's state of the art and comprehensive cancer center opened late summer 2005 in the Summerlin District of Las Vegas, NV. The newest cancer center nationally and one of only a few opened in the past decade, its staff provides:
 - Medical oncology
 - Malignant hematology

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- Radiological oncology
 - Pathology
 - Diagnostic imaging
- Clinical Trials: NVCI has introduced more than 30 Phase I, II and III clinical trials to the state since October 2005, with a patient: clinical trial participation rate that is three times greater the national average.
- It is NVCI's overarching goal to become a National Cancer Institute Designated Comprehensive Cancer Center. Organizations awarded this designation not only must perform first-rate research and exceptional patient care, but they must also demonstrate that the close integration of research and clinical efforts fosters an environment that stimulates new discoveries, and translates these discoveries quickly into better care to patients. Research in the area of cancer control and programs in community outreach and education are also essential for comprehensive status.
- NVCI plans to work with an accredited medical school to establish an accredited Medical Oncology Fellowship Program at the Nevada Cancer Institute. This program, which will be the first and only medical oncology fellowship program in the state, will allow for both the clinical and research training of physicians in the specialty of medical oncology, the completion of which will lead to certification by the American Board of Internal Medicine. These Board-certified oncologists will play an important role in the care of cancer patients in the state of Nevada.

As Nevada's official cancer institute, NVCI supports and encourages the clinical training of nursing students from local universities and colleges. Whether seeking training in oncology patient care, chemotherapy administration or advice on research methodologies and data analysis, nursing students are encouraged to visit and train in the clinics at NVCI. Oncology nurse certification classes are held at the NVCI each quarter

Nevada Hospital Association and Nevada's Teaching Hospitals

History of the Nevada Hospital Association (NHA)

The Nevada Hospital Association (NHA) is a not-for-profit, statewide, professional association, representing the vast majority of Nevada's hospitals, and other health-related agencies and organizations throughout the state. Formally established in 1960 and incorporated in 1971, NHA was created by hospital administrators to provide a unified forum for all types of hospitals to address such issues as reimbursement, worker's compensation, professional liability and continuing education, among others.

Over time, the emergence of major issues such as marketplace health care, restrictive government payment policies, inadequate funding for indigent care, and manpower shortages, among others, have continued to pose formidable challenges to the health care

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system. The need for collaboration and cooperation among stakeholders, for solid leadership, and for continuous, vigorous advocacy, cannot be overstated.

The Nevada Hospital Association (NHA) was established to assist its full member hospitals in Nevada to fulfill their missions of providing access to high-quality, high-value health care services to their communities. NHA strives to be an effective advocate for improving the efficiency and accessibility of the healthcare delivery systems and for improving the health status of Nevada's citizens. NHA membership includes short-term acute care, long-term acute care, psychiatric and rehabilitation hospitals, and includes both public and private, and urban and rural hospitals. NHA represents the interests of 93% of all hospital beds in Nevada. NHA engages in representation of its members at all levels of government.

Mission of the Nevada Hospital Association

NHA's mission is to be a membership organization of hospitals serving as a statewide resource and leader in promoting public understanding and support for the health care system serving Nevada's communities. NHA serves its members by providing education, information, advocacy, and representation, and by serving as a catalyst in collaborative efforts to produce quality, adequately financed, and accessible health care in Nevada.

NHA's vision is to be the recognized leader and primary resource in health care advocacy and public awareness efforts, not only for our members, but also for providers, policy makers, and other community members who collectively work toward common goals and objectives to satisfy the health care needs of Nevada's communities. NHA realizes this vision through adherence to principals and values supportive of its stated mission and objectives.

Organizational Structure of the Nevada Hospital Association

Governance: Overall control of the NHA is vested in the Board of Directors, which consists of annually-elected representatives of various Nevada hospitals. NHA also has committees established to address more-specific needs of our membership, including the Policy Development Committee, the Governmental Affairs Committee, the Data & Finance Committee, the patient Safety Committee and the Public Relations Committee.

Member Hospitals & Services: NHA represents the following Nevada hospitals:

Banner Churchill Community Hospital	North Vista Hospital
Boulder City Hospital	Nye Regional Medical Center
Carson Tahoe Regional Medical Center	Pershing General Hospital
Carson Valley Medical Center	Progressive Hospital
Desert Springs Hospital Medical	Saint Mary's Regional Medical
Desert Willows Treatment Center	Southern Hills Hospital & Medical Center
Grover C. Dils Medical Center	Sierra Surgery & Imaging
HealthSouth Rehabilitation Hospital of	South Lyon Medical Center

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Henderson	
HealthSouth Rehabilitation Hospital of Las Vegas	Spring Mountain Treatment Center
Horizon Specialty Hospital	Spring Valley Hospital Medical Center
Humboldt General Hospital	St. Rose Dominican Rose de Lima Campus
Incline Village Community Hospital	St. Rose Dominican San Martín Campus
Kindred Hospital at Desert Springs	St. Rose Dominican Siena Campus
Kindred Hospital Flamingo Campus	Summerlin Hospital Medical Center
Kindred Hospital Sahara Campus	Sunrise Hospital & Medical Center
Mesa View Regional Hospital	University Medical Center
Montevista Hospital	Valley Hospital Medical Center
MountainView Hospital	VA Sierra Nevada Healthcare System
Nathan Adelson Hospice (Buffalo)	Washoe Medical Center
Nathan Adelson Hospice (Swenson)	Washoe Medical Center Rehabilitation Hospital
Northeastern Nevada Regional Hospital	Washoe Medical Center South Meadows
Northern Nevada Medical Center	West Hills Hospital
	William Bee Ririe Hospital

In addition to the inpatient, outpatient, pediatric, maternity, surgery, intensive care and 24-7 emergency services provided by almost all short-term acute care member hospitals, our member hospitals provide a wide variety of specialized services, including:

Desert Springs Hospital Medical Center operates the only ADA-accredited diabetes program in southern Nevada in its Diabetes Treatment Center.

Southern Hills Medical Center operates the Cancer Institute of Nevada.

Sumerlin Hospital operates the Retinal Institute of Nevada.

University Medical Center's Level I Trauma Center verified by the American College of Surgeons is the fourth-busiest in the country and is the only freestanding trauma center west of the Mississippi; and Washoe Medical Center and Sunrise Hospital are designated as Level II Trauma Centers.

University Medical Center operates the state's only Burn Care Center and is the primary clinical campus for medical students through its affiliation with the University of Nevada School of Medicine.

University Medical Center operates eleven Quick Care Centers, providing urgent and primary care.

Washoe Medical Center offers Novalis®, ACoS-CoC accredited cancer services rated in the top 17% in the country, biplane angiography, VectorVision®, JCAHO certified primary stroke center earning the Gold Seal of Approval, Women's

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Heart Program, Gynecological Oncology Program, the second-ever epilepsy lab to earn ABRET accreditation, and a dedicated PET/CT.

Sunrise Hospital operates Nevada's only full service Neurosciences Institute, southern Nevada's only JCAHO accredited primary stroke center, Nevada's only Children's Hospital, Nevada's only Gamma Knife for minimally invasive brain surgery, Nevada's only da Vinci surgical robot,

Our other hospitals provide a range of other special services including open heart surgery, oncology, wound care, rehabilitation, psychiatric and chemical dependency services, long-term acute care for medically complex cases, neurology, cardiology, neo-natal ICU, telemetry, nephrology, etc.

Nevada hospitals directly and indirectly generate approximately 44,000 jobs and \$1.5 billion in payroll in Nevada in addition to the positive economic impact associated with expenditures on capital improvements and new construction.

NHA Services:

Committee for Improving and Expanding Nevada Health Care: Nevada's hospitals and the physician community recognized a need for a unified forum in which to address the need for an improved and expanded medical education system in Nevada. In 2006, the Committee for Improving and Expanding Nevada Health Care (CIENHC) was founded and incorporated as a stand-alone organization to address medical education development and funding. In September 2005, in response to growing concerns over the adequacy of the medical education system in Nevada, the predecessors of the CIENHC group presented a proposal to the Nevada System of Higher Education (NSHE), which offered to infuse the system with an annual financial outlay of \$45 million; to expand existing residency programs in hospitals and to create additional residency programs in key areas of need; and to develop a fundraising vehicle that could provide financial assistance for attracting new faculty, making capital investments, and soliciting research grants. CIENHC continues to work with NSHE, the University of Nevada School Of Medicine, and other community stakeholders to ensure that a strong and viable medical education system that serves the needs of Nevada's population is properly sustained.

Nursing Institute of Nevada: The Nursing Institute of Nevada (NIN) was established by NHA in 2002, with the vision to ensure adequate nursing resources to meet the growing health care needs in Nevada. NIN remains steadfast in its mission "to foster partnerships between the nursing profession, health care communities, governmental entities, and educational institutions that build upon each other's strengths and develop roles as change agents for improving the overall health of Nevadans." Through NIN, Nevada is one of twenty-five states that is considered part of the Robert Wood Johnson Foundation entitled, *Colleagues In Caring: Regional Collaboratives for Nursing Workforce Development* (CIC). Colleagues in Caring brought stakeholders in nursing care together to assess the capacity to meet the health care needs of their state's population. Along with CIC coalitions, the national nursing shortage that emerged in the

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late 1990's catapulted the development of state nursing workforce centers. These centers employ evidence-based strategies aimed at assuring a sufficient numbers of qualified, educated nurses to provide nursing care and interventions to their respective population.

Nevada Health Facilities, Education and Research Foundation: The Nevada Health Facilities, Education and Research Foundation was formed in 1973 by NHA to develop various programs to accommodate the health needs of Nevadans, and to promote the public welfare through the development of closer communication among Nevada hospitals. This Foundation also recognizes the accomplishments of nurses in Nevada's healthcare systems with the Northern Nevada Nurses of Achievement dinner and awards recognizing outstanding achievement in nursing in thirteen different categories.

Scope of Current Program

Graduate Medical Education: Currently five Nevada hospitals (Sunrise Hospital & Medical Center, University Medical Center, Valley Hospital Medical Center, Washoe Medical Center, and VA Sierra Nevada Health Care System) offer residency programs to train new physicians. Among these five hospitals, there are 217 residents receiving training in one of nine specialties: Internal Medicine, Family Practice, Pediatrics, Obstetrics and Gynecology, Surgery, Dentistry, Psychiatry and Emergency Medicine. For their fiscal years ending in 2005, hospitals spent in excess of \$20 million dollars for unreimbursed physician and medical student education.

Nursing Education and Clinical Site Coordination: In 2002, the Nevada System of Higher Education (NDHE) added its most recent public school of nursing, bringing the total to seven public entities. In 2001, the Nevada Legislature required the doubling of enrollment in these schools to help resolve the critical nursing shortage. This doubling was completed far ahead of the allotted timeframe for completion. During 2005-2006, three private schools of nursing were approved by the Board of Nursing to conduct nursing programs in Nevada, bringing the total number of nursing schools to ten. These ten schools include a Certificate in Practical Nursing (LPN), a degree program in Associate and Applied Science in Nursing (AND), Bachelor of Science (BSN), RN-to-BSN degree completion, Master of Science in Nursing (MSN), Post-Master's Certificates, and Dual Masters in conferring BSN and MSN in Nursing. Due to a significant salary disparity which results in paying nurse educators less than their graduating students, Nevada and the nation are now experiencing a shortage of qualified nurse educators.

Nevada hospitals voluntarily contribute over \$12.5 million annually to ensure clinical sites and laboratory experiences are made available to all ten schools of nursing. Hospitals provide higher education for staff, nurse preceptors and mentors, and assistance with faculty salaries, to name just a small part of the hospital community's contribution to resolving the shortage.

Criminal Background Checks: A key issue gaining momentum on a state and national level involves criminal background checks for students. NHA has coordinated and

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facilitated a state standardization process for conducting criminal background checks for students and faculty who provide direct patient care as part of their training. The schools of nursing and hospitals—including legal and human resource collaborators—have worked closely to achieve a standardized methodology, thus eliminating multiple background checks for those students and faculty who utilize multiple facilities for their clinical experiences.

Patient Safety Committee: Beginning as two committees—a steering committee and a work group to ensure the implementation of AB1 (Sentinel Event Reporting – 2003 Session) and AB59 (Facility Acquired Infections – 2005 Session)—the two original committees evolved into the Nevada Hospital Association Patient Safety (NHAPSC). This committee meets quarterly to discuss issues and to ensure compliance with regulations. The committee is chaired by NHA, and membership consists of facility risk managers, infection control coordinators, JCAHO, the state Quality Improvement Organization, and the State Health Division, which is the repository for the sentinel event data submitted by facilities and which generates reports based on the data.

Community Benefits: In keeping with their missions, the fifteen largest Nevada hospitals spend in excess of \$500 million annually, almost as much as the entire state-share of the Nevada Medicaid budget, in providing community benefits. Most of this, over \$450 million, represents the cost of care delivered to the uninsured and to those patients covered by government programs which do not pay the full cost of care. \$24 million of the \$500 million is spent on health professionals' education, including the education of physicians, nurses, technicians and other professionals. Almost another \$24 million of the \$500 million is spent for community health services, including a wide variety of community health education and clinical services. Examples of this include health fairs; childbirth, breastfeeding, child care, diabetes, smoking cessation, weight management, safe driving, dental, healthy diet, pain management, hospice, living wills, and many other education programs; cancer, asthma, blood pressure, mental health and other screenings; free flu shots and physicals; blood drives; and support groups for those suffering from various health problems and for their families.

Hospital Preparedness: On August 28, the U.S. Department of Health and Human Services (DHHS) contacted NHA and inquired if it could be dispatched with its disaster medical facilities to respond to the gulf region to assist with relief efforts spawned by Hurricane Katrina. NHA was able to perform this task and on September 4 received orders to move to a staging location at the airport in New Orleans. NHA staff, along with a set-up team, flew across the country and was dispatched as part of the health care recovery mission to Gulfport, Mississippi.

The NHA disaster medical facilities remained operational for 45 days and treated 7,300 patients. The average per patient cost of treatment was \$188, making NHA's efforts one of the most cost effective missions during the duration of the Katrina response.

NHA has also become involved in the development and implementation of the National Infrastructure Protection Plan. A representative from NHA has been appointed by DHHS

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to serve on both the Healthcare Sector Coordinating Council (SCC) and the Partnership for Critical Infrastructure Security (PCIS). The mission of the SCC is to serve as the principal policy coordination and planning entity for the health care service sector, under the National Infrastructure Protection Plan. The SCC, once fully functional and integrated into the federal system, will provide operational and tactical capabilities for information sharing and, in cases such as Katrina or other occurrences of national significance, support for incident response activities.

NHA also continued to receive grant funds through HRSA, related to hospital preparedness. During the 2005/2006 grant cycle, NHA received approximately \$524,000 to maintain certain programmatic elements such as the EMSystem hospital communication program and universal badging system, as well as to refine existing planning documents.

NHA developed a Master Mutual Aid Agreement which provides the framework whereby hospitals can share equipment, supplies, and personnel, as well as agree to accept transfers from other hospitals throughout the state during times of catastrophe or pandemic.

The Universal Badging System is currently being installed within two separate facilities in southern Nevada. This program will provide hospitals with the ability to read and authenticate by other hospitals' badges during times of disaster and would help provide a seamless solution for staffing and volunteer management.

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FUTURE PLANS

Graduate Medical Education		
<u>UNHSC/UNSOM</u>	<u>TUN/TUNCOM</u>	<u>OTHER</u>
<ul style="list-style-type: none">• UNSOM plans approximately 80 new slots in the 2007 – 2009 Biennium, plus the 24 slots established in 2006• UNSOM to add approximately 250 new residency training positions over the next decade (see Appendix for additional detail)	<ul style="list-style-type: none">• TUNCOM plans to develop 90 GME slots in the next 2 to 3 years• TUNCOM to add approximately 100 new residency training positions over the next decade	Initiatives at other institutions (including the establishment of fellowship and post doctoral programs at institutions like NVCI).

Requirements to achieve the specific plans as outlined:

1. Ongoing hospital funding through the Nevada Hospital Association proposal
2. Long term additional Federal support (need State endorsement and support to pursue)
3. Collaboration with key teaching hospitals willing to initiate or assume additional responsibilities for residency and fellowship training
4. Expansion of core faculty and identification of community physician practices willing to make a commitment to student and GME programs
5. A coordinating vehicle to enable the most effective planning and implementation of GME experiences, to include UNSOM, TOURO, key teaching hospitals, and others
6. Mutual access of medical school graduates to GME programs
7. Exploration and evaluation of dually accredited GME programs (i.e., ACGME & AOA) between UNSOM and TUNCOM

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Medical Education Faculty		
<u>UNHSC/UNSOM</u>	<u>TUNCOM</u>	<u>OTHER</u>
<ul style="list-style-type: none"> • UNSOM plans approximately 80 – 85 additional faculty over 2007 – 2009 biennium • UNSOM plans to add approximately 300 faculty over the next decade as a core of full-time faculty are essential to a quality medical school • UNSOM is exploring models to collaborate with existing physician practices in several specialty areas 	<ul style="list-style-type: none"> • TUNCOM plans to recruit qualified basic science faculty particularly in the fields of pharmacology, biochemistry, anatomy and neuroscience • TUNCOM plans to expand faculty by 20 over the next 3 years 	<ul style="list-style-type: none"> • TUNCOM and UNSOM will also need to develop and coordinate a deeper base of community-based faculty, especially for GME programs • TUNCOM and UNSOM plan to explore opportunities to develop joint CME programs for adjunct faculty committed to teaching • Continued support of innovative private and non-profit initiatives

Requirements to achieve:

1. UNSOM growth in faculty will require significant State investment (\$10M per year 2007 – 2009) for ramp up. Over time, faculty growth is significantly (70%) self-sustaining, as faculty research and clinical practice ramps-up
2. Support of core faculty will require core teaching hospitals focused on shared mission and success of faculty programs
3. Attracting more specialized physicians and researchers into the state (capitalize on existing facilities and programs)
4. There is a need to support community physicians who provide significant contributions to graduate medical education. Support should be provided with an emphasis toward those who contribute in leadership roles, with a substantial and consistent time commitment. Specific support may include Program Director contracts, access to healthcare libraries, continuing medical education, administrative support, or other mechanisms.

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Undergraduate Medical Education		
<u>UNHSC/UNSOM</u>	<u>TUNCOM</u>	<u>OTHER</u>
<ul style="list-style-type: none"> • Increase size of UNSOM class in the short-term from 52 to 62 (entering class) • Increase size of UNSOM class to 96 in 2010 when additional education and research facilities are available 	<ul style="list-style-type: none"> • Increase College of Medicine class size by 15 students in 2 years (150 students/class) • Increase College of Medicine to 167 students/year over the next decade • TUNCOM is focusing on development of community training experiences for 3rd and 4th year students 	<ul style="list-style-type: none"> • Develop collaborative models with local colleges and universities to identify and recruit local college students into medical training programs

Requirements to achieve:

1. UNSOM growth requires State investment in facilities and faculty growth requires facility expansion in both Reno and Las Vegas (see above)
2. Identification of financial resources to support healthcare education: Currently, TUNCOM is a tuition driven institution. TUNCOM hopes to add funding to support healthcare education through private and government funding resources
3. Both schools will require community physicians motivated to become adjunct faculty members and make a commitment to help train students
4. Identification of community resources (hospitals, physicians, research institutions) willing to make a commitment to student and GME programs
5. Increase in the number and quality of clinical training sites in Clark County & Nevada
6. Collaboration to include shared 4th year elective experiences for students
7. A coordinating vehicle to enable the most effective planning and implementation of educational experiences, to include UNSOM, TUNCOM, key teaching hospitals, and others.

Graduate and Undergraduate Nursing Education

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<u>UNHSC/UNSOM</u>	<u>TUN /TUNCHHS⁷¹</u>	<u>OTHER</u>
<ul style="list-style-type: none"> • Re-double undergraduate enrollment across its seven nursing schools and programs over the next 3 biennia (by 2012-2013) as facility constraints limit short term enrollment growth⁷². • Increase available nursing faculty through graduate program enrollment growth and decreased time to degree completion for masters and doctoral students • Scholarships/loan forgiveness for nursing graduate students to increase enrollment and decrease time to graduation 	<ul style="list-style-type: none"> • Currently seeking approval for an RN to BSN completion program in order to meet area healthcare provider's needs for more BS prepared nurses • Offer science pre-requisites (anatomy, physiology and microbiology) for nursing students with articulation to CCSN, Nevada State, and UNLV • Develop an adult/geriatric focused nurse practitioner program and to offer the Doctor of Nursing Practice degree in the future 	<ul style="list-style-type: none"> • The University of Southern Nevada (USN) offers a Bachelor of Science in Nursing (BSN) Degree and will educate their first class beginning with the Fall 2006 semester⁷³. • Apollo College offers a nursing program with an Applied Science Degree⁷⁴. • National University is also seeking accreditation for their nursing program in Nevada

Requirements to achieve:

1. NSHE: Physical plant capacity, educational, faculty office, and research facilities
2. Adequate clinical training sites and coordinating vehicle for clinical site placements⁷⁵.
3. Funding for faculty growth to support expansion and maintain required faculty to student ratio of 1 to 8 at NSHE

71 TOURO plans to achieve current capacity in its nursing program of 44 as well as develop BSN and MSN program offerings at off campus locations, and increase offering of courses online

72 This will result in an increase in total nursing enrollment at NSHE programs from 1570 in 2004/2005 to 3140 in 2012/2013.

73 Their first class will consist of 31 students, and they have the capacity for 80 in its 18 month BSN program, with classes beginning each August. In the future, USN would like to conduct a needs assessment for an MSN program, as well as explore the availability of millennium scholarships for private nursing school students

74 This program includes four semesters of study, and each semester is sixteen (16) weeks in duration

75 NVHA has applied for a grant to maintain a database of clinical training sites

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4. Availability of qualified faculty including recruitment of a sufficient number of doctoral-prepared faculty in nursing

Research and Independent Research Institutions		
<u>UNHSC/UNSOM</u>	<u>NVCI</u>	<u>OTHER</u>
<ul style="list-style-type: none"> Undergo a significant expansion of clinical and research facilities 	<ul style="list-style-type: none"> Increase the size of NVCI from 19 to 38 faculty members with doctoral degrees by the year 2009 	<ul style="list-style-type: none"> TUN: Develop partnerships with research facilities to expose students to research fields of interest and to serve as collaborative models for faculty with similar interests Enhance biomedical research capabilities within Nevada and attract biotech related industry Develop mechanisms for sharing of information on current research initiatives and expertise to enhance opportunities for collaboration Expand role of independent institutes in graduate and post graduate education⁷⁶.

Requirements to achieve:

1. Strengthen collaboration and affiliations among the schools and institutions in Nevada.
2. Develop core facilities and centers of research excellence that will attract new outstanding physicians and researchers to Nevada

⁷⁶ Good examples include: UNSOM development of a collaborative neurosciences research initiative with the Ruvo Institute and NVCI's funding of four collaborative research grants with UNLV, UNR, and UNSOM which are designed to foster future applications for NIH and other federal funding

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3. Develop supercomputing collaborations
4. Faculty and facility enhancement requiring subsequent investments from federal and state sources for:
 - UNHSC lab facility expansion
 - TOURO:
 - Building of an onsite vivarium with the capability to house small and larger animals
 - Expanding research space from the current 25 station flexible research lab
 - Expanding and developing the cell and tissue culture facility
 - Developing a movement disorder lab
 - NVCi:
 - Expanding cell sorting capacities
 - Expanding laboratory space
 - Acquiring chip array technology
 - Enhancing mass spectroscopy capability
 - Advancing radiation equipment for pre-clinical and clinical research

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Other Healthcare Professional Programs		
<u>UNHSC/UNSOM</u>	<u>TUN /TUNCHHS</u>	<u>OTHER</u>
<ul style="list-style-type: none"> • Early priorities for other health science programs (e.g., public health, physical therapy, laboratory technology, radiological technology, nutrition, and behavioral health) • Development of a public School of Pharmacy and Pharmaceutical Sciences • Expansion of School of Dental Medicine rural training through a rural outreach program and development of subspecialty training programs (e.g.,, endodontics, periodontics, oral and maxillofacial surgery, and pediatric 	<ul style="list-style-type: none"> • Develop an Occupational Therapy⁷⁷ curriculum which transitions OT assistants to certified Occupational Therapists and to partner with Nevada State College to offer a seamless transition to a Masters degree in OT 	Various plans to expand

⁷⁷ Touro University Nevada College of Health and Human Services plans to achieve capacity in Occupational Therapy program of 35 seats and increase capacity as demand increases

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APPENDIX V

STANDARDS AND BENCHMARKS

The Commission formed a Standards and Benchmarks group to meet with three goals:

1. Determine national standards and benchmarks of excellence in medical and healthcare education, research and training
2. Compare Nevada's existing status of medical and healthcare education, research and training to identified standards;
3. Recommend what will work here.

The mission of the group was confined to determining, comparing and recommending standards and benchmarks for state funded academic institutions.

PROCESS

1. Identify standards and benchmarks for Academic Institutions and Academic Physicians
2. Determine how measured
3. Analyze Nevada's position
4. Compare Regional Schools (examples included Arizona, Utah, New Mexico, University of California Davis and University of California Irvine)
5. Compare top U.S. News & World Report schools (e.g., Harvard, Johns Hopkins, Washington University St. Louis, University of California San Francisco, University of Pennsylvania). It should be noted top schools were examined for gold standard – we cannot directly compare ourselves to these schools
6. Establish Standards and Benchmarks for UNSOM and Nevada

RECOMMENDED CRITERIA

Academic Institutions

1. External Funding:

- a. National Institutes of Health
- b. Other Federal Research Grants and Contracts
- c. Federal Support
- d. State appropriations
- e. Hospital GME support
- f. Net hospital funds
- g. Gifts and endowments
- h. Practice Plan Revenue

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2. Internal Resources:

- a. Teaching Hospital ranking

3. Faculty Standards:

- a. AAMC full-time faculty ranking
- b. Medical student to faculty FTE ratio
- c. Resident to Faculty FTE ratio
- d. AAMC clinical research grants ranking

4. Student Standards:

- a. Total number of medical students
- b. AAMC Medical student retention rates

5. Residency and Fellowship Standards:

- a. Number of residents in accredited programs
- b. Number of fellows in accredited programs

Academic Physicians

1. External Funding:

- a. National Institutes of Health
- b. Other Federal Research Grants and Contracts

2. Publications/Citations:

- a. Number of peer-reviewed publications
- b. Highly cited researchers

3. Coveted Memberships/Awards:

- a. National Academy of Sciences
- b. Institute of Medicine

4. Clinical Research/Leadership:

- a. Number of clinical trials
- b. Peer reviewed funding per faculty
- c. Average protected research time per faculty

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APPENDIX VI

STATE OF GEORGIA AND CALIFORNIA MODELS, FRAMINGHAM HEART STUDY, AND BACKGROUND ON NEVADA VITAL AGING INITIATIVE

Georgia and California Examples

There is no one way for Nevada to create a state-wide research effort, Georgia and California, two very different states have created two very different models. The Georgia Research Alliance is a top-down, governor sponsored initiative and the California Institute of Regenerative Medicine which is a voter sponsored initiative. However, there are public, private and hybrid organizations and every combination of options in-between.

Each of their efforts came about from specific circumstances and points in time. Georgia catapulted itself to a national leader in 15 years. California is poised to revolutionize stem-cell technology research.

The Georgia Research Alliance:

The Georgia Research Alliance (GRA) was formed during the 1990's by key business executives, university presidents, and the state government. A non-profit entity, GRA played a pivotal role in getting state government, industry, and universities to work together to hire scientific luminaries, attract federal research funds, and translate research into economic development⁷⁸. The key to GRA's success was the support of then Governor Miller.

Background: In 1984, after a national competition among states, Georgia lost to Texas as the location of the Microelectronics and Computer Consortium. The Microelectronics and Computer Consortium was a high technology enterprise regarded by many in Georgia as pivotal for economic development and prestige. The loss sparked Georgia's business leaders, research universities and state government to come together to create a technology-driven economy fueled by innovative university research.

Success: To date, the GRA has invested some \$400 million, which has helped to attract more than 50 Eminent Scholars, leverage \$2 billion in federal and private funding, create more than 5,000 new technology jobs, generate some 120 new technology companies, and allow established Georgia companies to expand into new markets⁷⁹.

Strategy/Goals: The GRA plan was to attract the world's pre-eminent scientists to Georgia's universities to lead extraordinary programs of research and development in areas with the most potential for generating new high-value companies, helping

⁷⁸ See "Catalyzing Research Competitiveness: The Georgia Research Alliance, W. Henry Lambright, Prometheus, Vol. 18, No. 4, 2000

⁷⁹ Per the Georgia Research Alliance website

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established companies to grow and creating new high-wage jobs. Once on-board, the scientists would help Georgia:

- Compete successfully for a larger share of federal and foundation research funds
- Attract other talented faculty and graduate students to Georgia.
- Foster new companies and create new relationships with industry to commercialize technologies developed through their research, so that more jobs and economic opportunities could be created for Georgia's citizens.

Structure: The GRA model is a publicly oriented private organization which has benefited both sectors. With the financial backing of the state legislature, the state's research universities, private foundations and other supporters, GRA has focused on marshalling the required talent and resources and driving an effective strategy for achieving these results.

Current Programs⁸⁰:

- Eminent Scholars: Renowned scientists are recruited to Georgia from many parts of the world to lead extraordinary programs of research and development with high potential economic development impact for the state. Areas of research focus are primarily in advanced communications and computing and the biosciences and range from optical systems to structural biology.
- Research Laboratories and Equipment: Alliance-supported laboratories and equipment are accessible to both university and industry researchers and cover a broad array of research and development needs. Examples include: vaccine development, wireless systems, and tissue engineering.
- National Centers for Innovation and Research: GRA investments have increased the willingness of federal agencies to fund innovative research centers at Georgia's research universities. Examples include:
 1. Center for the Engineering of Living Tissues. A National Science Foundation supported Engineering Research Center, focused on tissue engineering. To date, the Center has attracted \$20 million in federal funding to Georgia and partnered with some 21 companies in related industries.
 2. The Center for Behavioral Neuroscience is a multi-institutional effort involving Emory University, Georgia State University, Georgia Institute of Technology, and the Atlanta University Center schools.

⁸⁰ Additional information can be found on the Georgia Research Alliance website www.gra.org

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The Center offers programs for developing new technologies with commercial potential. It has brought nearly \$20 million in NSF funding to Georgia and added another \$17.5 million over the next five years.

3. The Packaging Research Center at Georgia Tech provides all systems functions to serve the needs of telecommunications applications in a single, integrated electronic package. Alliance investments in the PRC have helped to generate a cumulative economic impact of some \$351 million in Georgia. The 25 industry members of the Center include Panasonic, Nokia, Motorola, Sony, Rockwell Collins, Northrop Grumman and National Semiconductor.
4. Southeast Collaboratory for Structural Genomics was established through a \$24 million dollar grant (one of only seven awarded nationwide) from the National Institutes of Health's National Institute of General Medical Sciences. Its goal is to map the three-dimensional structure of proteins, an essential step in the development of new medicines, crops and industrial enzymes.
5. Moving laboratory discoveries into the marketplace. GRA assists in helping commercialize projects. Three funds are focused on this process: Technology Incubators, VentureLab, and the GRA Innovation Fund.

California Institute for Regenerative Studies⁸¹:

The California Institute for Regenerative Medicine ("The Institute" or "CIRM") is a state agency that was established through the passage of Proposition 71, the California Stem Cell Research and Cures Initiative.

Background: The proposition came about as a result of President Bush's position on stem cell research in early 2000. Several well placed individuals pushed Governor Schwarzenegger to allow a voter lead ballot measure. The statewide measure, which provided for \$3 billion in funding for stem cell research at California universities and research institutions, was approved by California voters on November 2, 2004, and called for the establishment of a new state agency to make grants and provide loans for stem cell research, research facilities and other vital research opportunities.

Success: The source of funding for research is the proceeds from \$3 billion in bonds that has been authorized to be sold over a 10 year period. The sale of bonds has been put on hold pending the outcome of two lawsuits challenging the constitutionality of Proposition 71. CIRM is working with the Office of State Treasurer to sell bond anticipation notes

⁸¹ Additional information can be found at CIRM's website: www.cirm.ca.gov

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(BANs) which would be paid off with bond proceeds after the lawsuits are resolved. An initial closing of \$14 million in BANs was made on April 6, 2006. It is anticipated that the lawsuits will be resolved sometime in 2007. At the September 9, 2005 ICOC meeting the members voted to approve a series of multi-year training grants to increase the number of young investigators (pre-doctoral, post-doctoral and clinical fellows) with the technical and academic skills necessary to conduct basic and applied stem cell research. The first year of funding for these grants was issued to the institutions on April 7, 2006.

Strategy/Goals: The CIRM will use bond proceeds to fund basic and applied biomedical research focused on developing diagnostics and therapies and on other vital research opportunities that will lead to life-saving medical treatments. All proposals are peer-reviewed to support the most promising scientific research. Research grants are made only to California-based research institutions.

Structure: CIRM is a state-funded Institute. They also accept private donations.

Governance: The Independent Citizens Oversight Committee ("ICOC") is a 29-member governing board for the Institute. The ICOC members are public officials, appointed on the basis of their experience earned in California's leading public universities, non-profit academic and research institutions, patient advocacy groups and the biotechnology industry.

- The responsibilities assigned to the ICOC are:
 - Oversee the operations of the CIRM
 - Develop annual and long-term strategic research and financial plans for the institute
 - Make final decisions on research standards and grant awards in California
 - Ensure the completion of an annual financial audit of the institute's operation
 - Issue public reports on the activities of the institution
 - Establish policies regarding intellectual property rights arising from research funded by the CIRM
 - Establish rules and guidelines for the operation of the ICOC and its working groups
 - Perform all other acts necessary or appropriate in the exercise of its power, authority, and jurisdiction over the institute
 - Select members of the working groups
 - Adopt, amend, and rescind rules and regulations to carry out the purposed and provisions of this chapter, and to govern the procedures of the ICOC
 - Adopt interim regulations as necessary which can remain in effect for 270 days or when final regulations are adopted
 - Request the issuance of bonds from the stem Cell Research and Cures Finance Committee and loans from the Pooled Money Investment Board

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- Modify its funding and finance programs to optimize the institute's ability to achieve the objective that its activities be revenue positive during its first five years of operation
- Accept additional revenue and real and personal property that may be used to supplement annual research grant funding and the operations of the CIRM

Framingham Heart Study⁸²

Cardiovascular disease (CVD) is the leading cause of death and serious illness in the United States. In 1948, the Framingham Heart Study -- under the direction of the National Heart Institute (now known as the National Heart, Lung, and Blood Institute; NHLBI) -- embarked on an ambitious project in health research. At the time, little was known about the general causes of heart disease and stroke, but the death rates for CVD had been increasing steadily since the beginning of the century and had become an American epidemic. Since 1971, the Framingham Heart Study has been conducted in collaboration with Boston University.

The objective of the Framingham Heart Study was to identify the common factors or characteristics that contribute to CVD by following its development over a long period of time in a large group of participants who had not yet developed overt symptoms of CVD or suffered a heart attack or stroke.

Study: The researchers recruited 5,209 men and women between the ages of 30 and 62 from the town of Framingham, Massachusetts, and began the first round of extensive physical examinations and lifestyle interviews that they would later analyze for common patterns related to CVD development. Since 1948, the subjects have continued to return to the study every two years for a detailed medical history, physical examination, and laboratory tests. In 1971, the study enrolled a second-generation group -- 5,124 of the original participants' adult children and their spouses -- to participate in similar examinations. A Third Generation (the children of the Offspring Cohort) is currently being recruited and examined, seeking to further understand how genetic factors relate to cardiovascular disease. These participants are being given an extensive cardiovascular examination similar to their parents and grandparents. The goal is to recruit and examine 3,500 grandchildren of the original cohort.

Results: Over the years, careful monitoring of the Framingham Study population has led to the identification of the major CVD risk factors -- high blood pressure, high blood cholesterol, smoking, obesity, diabetes, and physical inactivity -- as well as a great deal of valuable information on the effects of related factors such as blood triglyceride and HDL cholesterol levels, age, gender, and psychosocial issues. Although the Framingham cohort is primarily white, the importance of the major CVD risk factors identified in this group have been shown in other studies to apply almost universally among racial and ethnic groups, even though the patterns of distribution may vary from group to group.

⁸² <http://www.nhlbi.nih.gov/about/framingham/index.html>

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Since its inception, the study has produced approximately 1,200 articles in leading medical journals. The concept of CVD risk factors has become an integral part of the modern medical curriculum and has led to the development of effective treatment and preventive strategies in clinical practice.

The Framingham Heart Study continues to make important scientific contributions by enhancing its research capabilities and capitalizing on its inherent resources. New diagnostic technologies, such as echocardiography (an ultrasound examination of the heart), carotid artery ultrasound, bone densitometry (for monitoring osteoporosis), and computerized tomography of the coronary arteries, are evaluated and integrated into ongoing protocols.

Future Results: While pursuing the study's established research goals, the NHLBI and the Framingham investigators are expanding their research into other areas such as the role of genetic factors in CVD. Framingham investigators also collaborate with leading researchers from around the country and throughout the world on projects in stroke and dementia, osteoporosis and arthritis, nutrition, diabetes, eye diseases, hearing disorders, lung diseases, and genetic patterns of common diseases.

Nevada Vital Aging Initiative

The specific idea behind the state-wide research project began with the Ruvo Institute's planned research program to develop and manage a unique clinical research infrastructure, the **Nevada Vital Aging ("NVA")** initiative.

The NVA initiative involves the establishment of a regional database which will provide a shared national resource for a wide range of population-based studies on aging and/or brain disorders. However, the information can also be used for a wide range of other disease studies including cancer, and diabetes. Starting with the NVA initiative and expanding the vision, Nevada can create a unique state-wide research effort with far reaching healthcare implications.

The development and broadening of NVA will enable the creation of a distinctive living laboratory, which will support:

- Epidemiological studies to assess potential risk factors
- Clinical trials/studies to determine the efficacy of potential
- Disease-modifying therapies
- Validation of biological markers for early detection of neuro-degeneration
- 'Living laboratory' for R & D in telemedicine and other health technologies

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- Testing/developing new models of technology-based care and validation of interventions to reduce chronic disability.

The expressed goal of the NVA is the discovery of medical or life-style interventions that could be used long before memory problems or dementia affect a person's level of functioning; ideally at a stage when the relatively healthy brain is likely to benefit from treatments. Recent advances in imaging and biomarker technology are enabling the detection of neurodegenerative processes before the onset of symptoms. These emerging technologies offer the possibility of testing new strategies for treating or even preventing some brain impairments. Research has identified several genes that cause some forms of dementia, and it is widely believed that many more genetic variations await discovery. Such continued observations will serve to identify disease mechanisms that affect the development or progression of disease, and ultimately will contribute to the design of treatment and prevention strategies.

The NVA entails the creation of an integrated multi-purpose database for studies on well characterized volunteers. The aim is to begin by recruiting nearly 5,000 (initially, with a target goal of eventually expanding to 12,000) Nevada residents over the age of 45 years (primarily 'Baby Boomers') as pool volunteers for potential clinical and/or epidemiological studies. The recruitment would be done in steps beginning with a small cohort of 200-500 children of Alzheimer's patients. Over time, the recruitment would add people with a history of vascular diseases, diabetes, head trauma, etc.

Once the volunteer pool is large enough, machines are purchased and agreements negotiated, the pool would be expanded based on criteria to be developed.

The NVA, which may require several years for completion, will assemble a critical mass of talented investigators with different skills who will contribute ideas and data. The initiative will create a much-needed resource to study questions that couldn't otherwise be explored (e.g., identification of risk factors) and help overcome one of the major barriers to clinical trials/studies, that is, the recruitment of subjects. Such an enterprise is unlikely to be funded by NIH or any single funding source. The NVA is intended to be multi-user friendly, involving experts and professionals from different disciplines and/or institutions working together in planning the structure, functions and operations of the database.

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APPENDIX VII

OTHER NEVADA HEALTHCARE ASSETS AND RESOURCES

HOSPITALS

Nevada has 58 total hospitals:

Acute Care – Urban	
<u>Hospital</u>	<u>County</u>
1. Carson Tahoe Regional Medical Center – Carson City	Carson City
2. Desert Springs Hospital Medical Center – Las Vegas	Clark
3. MountainView Hospital – Las Vegas	Clark
4. Northern Nevada Medical Center – Sparks	Washoe
5. North Vista Hospital and Medical Center – North Las Vegas	Clark
6. Saint Mary’s Regional Medical Center – Reno	Washoe
7. St. Rose Dominican Hospitals, Martin Campus	Clark
8. St. Rose Dominican Hospitals, Rose de Lima Campus – Henderson	Clark
9. St. Rose Dominican Hospitals, Siena Campus – Henderson	Clark
10. Southern Hills Hospital & Medical Center – Las Vegas	Clark
11. Spring Valley Hospital Medical Center – Las Vegas	Clark
12. Summerlin Hospital Medical Center – Las Vegas	Clark
13. Sunrise Hospital & Medical Center – Las Vegas	Clark
14. University Medical Center of Southern Nevada - Las Vegas	Clark
15. Valley Hospital Medical Center – Las Vegas	Clark
16. Washoe Medical Center – Reno	Washoe
17. Washoe Medical Center, South Meadows – Reno	Washoe
<i>Urban Acute Care Subtotal: 16 Hospitals</i>	

Acute Care – Rural⁸³	
<u>Hospital (Critical Access Hospital or “CAH”)</u>	<u>County</u>
1. Banner Churchill Community Hospital – Fallon	Churchill
2. Battle Mountain General Hospital (CAH)	Lander
3. Boulder City Hospital (CAH)	Clark
4. Carson Valley Medical Center – Gardnerville (CAH)	Douglas
5. Desert Valley Regional Medical Center – Pahrump	Nye
6. Grover C. Dils Medical Center – Caliente	Lincoln
7. Humboldt General Hospital (CAH)– Winnemucca	Humboldt
8. Incline Village Community Hospital (CAH)	Washoe
9. Mesa View Regional Hospital – Mesquite (CAH)	Clark
10. Mount Grant General Hospital – Hawthorne (CAH)	Mineral
11. Northeastern Nevada Regional Hospital – Elko	Elko

⁸³ Nevada Rural and Frontier Health Data Book, September 2004

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Acute Care – Rural⁸³	
<u>Hospital</u> (Critical Access Hospital or “CAH”)	<u>County</u>
12. Nye Regional Medical Center – Tonopah	Nye
13. Owyhee Community Health Facility (CAH)	Elko
14. Pershing General Hospital – Lovelock (CAH)	Pershing
15. South Lyon Medical Center – Yerington	Lyon
16. William Bee Ririe Hospital – Ely (CAH)	White Pine
<i>Rural and Frontier Subtotal: 15 Hospitals</i>	

Acute Care – Federal	
<u>Hospital</u>	<u>County</u>
1. Mike O’Callaghan Federal Hospital – Nellis Air Force Base	Clark
2. VA Sierra Nevada Healthcare System – Reno	Washoe
3. VA Southern Nevada Healthcare System – North Las Vegas	Clark
<i>Acute Care Federal: 3 Hospitals</i>	

Long Term Acute Care	
<u>Hospital</u>	<u>County</u>
4. Harmon Medical and Rehabilitation Hospital – Las Vegas	Clark
Horizon Specialty Hospital – Las Vegas	Clark
5. Kindred Hospital at Desert Springs – Las Vegas	Clark
6. Kindred Hospital, Flamingo Campus – Las Vegas	Clark
7. Kindred Hospital, Sahara Campus – Las Vegas	Clark
8. Progressive Hospital – Las Vegas	Clark
9. Tahoe Pacific Hospitals, Meadows – Reno	Washoe
10. Tahoe Pacific Hospitals, West – Reno	Washoe
<i>Long Term Acute Care Subtotal: 8 Hospitals</i>	

Psychiatric	
<u>Hospital</u>	<u>County</u>
1. Desert Willow Treatment Center – Las Vegas	Clark
2. Dini Townsend Hospital at NNAMHS – Sparks	Washoe
3. Montevista Hospital – Las Vegas	Clark
4. Red Rock Behavioral Hospital – Las Vegas	Clark
5. Southern Nevada Adult Mental Health Services – Las Vegas	Clark
6. Spring Mountain Treatment Center – Las Vegas	Clark
7. West Hills Hospital – Reno	Washoe
8. Westcare Mental Health Crisis Unit – Las Vegas	Clark
9. Willows Springs Center – Reno	Washoe
<i>Psychiatric Subtotal: 9 Hospitals</i>	

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Rehabilitation	
<u>Hospital</u>	<u>County</u>
1. HealthSouth Hospital of Henderson – Henderson	Clark
2. HealthSouth Hospital of Las Vegas – Las Vegas	Clark
3. HealthSouth Hospital at Tenaya – Las Vegas	Clark
4. University Medical Center Rancho Rehabilitation Center – Las Vegas	Clark
5. Washoe Medical Center Rehabilitation Hospital	Washoe
<i>Rehabilitation Subtotal: 5 Hospitals</i>	

Specialty	
<u>Hospital</u>	<u>County</u>
1. Carson Tahoe Specialty Medical Center – Carson City	Carson City
2. Sierra Surgery and Imaging – Carson City	Carson City
<i>Specialty Subtotal: 2 Hospitals</i>	

MEDICAL SOCIETIES AND LICENSING BODIES

County Medical Societies

- Washoe County Medical Society
- Alliance with the Washoe County Medical Society
- Clark County Medical Society

Nevada Health Associations

- Nevada Hospital Association
- Nevada Medical Group Management Association (NVMGMA)
- Nevada Dental Association
- Great Basin Primary Care Association
- Nevada Nurses Association

Certifying/Licensing Organizations

- American Board of Medical Specialties
- Healthcare Financing Administration
- National Committee for Quality Assurance
- Joint Commission on Accreditation of Healthcare Organizations
- Nevada State Board of Medical Examiners
- Nevada State Board of Osteopathic Medicine
- Nevada State Board of Pharmacy

Ethics/Patient Safety

- Nevada Center for Ethics and Health Policy

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- Nevada Center for Patient Safety

Workers' Compensation Related Programs

- Nevada Workers' Compensation Program
- Nevada Self-Insurers Association

OTHER

Despite our national rankings, there is a lot of good work going on around the State. Listed below are some examples (but certainly not all):

Institution or Center	Resource
Center for Advanced Imaging and Genetics (AMIGENIX)	The only institution in Nevada incorporating genetics with neuro-imaging in interpreting neurological diseases
Joslin Diabetes Center - Affiliate at Fremont Medical Centers	Joslin Clinic is one of the first and most well respected diabetes care facility
Lou Ruvo Alzheimer's Institute – not open yet	Planning to become a national resource for the most current research and scientific information for the treatment of Alzheimer's, Parkinson's, and Huntington's diseases. Prevention, early detection, education, support and discovery will serve as the cornerstones.
Medical Education and Research Institute of Nevada (MERIN)	A unique institution for training allopathic and osteopathic surgeons at national and international levels on minimally invasive orthopedic neurosurgical, plastic, general and “all” types of surgical procedures.
Nevada Cancer Institute	Providing comprehensive care to cancer patients and performing peer reviewed and funded research with an aim to find remedies for malignant diseases
Nevada Neurosciences Institute	Full-service neurosciences center providing access to world-class patient care and pioneering medical research for brain and spine diseases, disorders and injuries
Sunrise Hospitals Gamma Knife	Sunrise Hospital and Medical Center operates Nevada's first and only Gamma Knife - a new tool that destroys brain tumors.
UNLV National Super Computing Center (NSCEE)	During the past six years, the mission of NSCEE has diversified to address a range of national scientific challenges by enhancing infrastructure and software

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Institution or Center	Resource
	applications in high-performance computing that support medical informatics, biotechnology, electronic health care delivery and education.
Washoe T-DAP Program	First hospital in the country to provide immunization for pertussis (whooping cough) to parents, grandparents and caregivers of newborns. New, national program sponsored by the CDC and Pasteur Foundation.
Institute for Neuro-Immune Disease – not open yet	Will be a major regional medical center for the research and treatment of patients with complex immune disorders such as Chronic Fatigue and Immune Dysfunction Syndrome (CFS), atypical Multiple Sclerosis, Myalgic Encephalomyelitis (ME) and other neuron-inflammatory diseases.